

Midwest Engineering

Wind Energy Business Plan

2007 EXPANSION FROM 2003 RENEWABLE ENERGY PLAN

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Principal Preparers:

Ryan J. Jacobson, Manager of Wind Energy Projects

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1.0 Executive Summary

In the current utility market climate, there is increasing demand for renewable energy and clean technologies. About half the states in the U.S. have portfolio standards mandating renewable energy supply, in some cases at levels exceeding 20 percent. Utilities are finding it increasingly difficult to develop or expand fossil generation due to increased fuel and construction costs and concern over carbon emissions. Due to this, utilities are increasingly developing renewable energy projects either in conjunction with fossil power plants, or instead of them. For much of the U.S., the most mature and cost effective renewable energy technology is wind power.

Due to this market need, the wind energy industry in the U.S. is growing tremendously (over 20 percent in 2006). Many utilities, developers, and vendors active in the development of fossil energy projects have also become active in wind energy. Midwest Engineering's market share in wind energy, however, is very small, and disproportionate to fossil energies like coal and natural gas. This is because Midwest Engineering only offers consulting services in wind energy, and detailed engineering on a very limited basis. To date Midwest Engineering has not performed the complete design nor construction of a wind energy project, a task the company has all the skills and tools to perform.

This business plan is to significantly increase Midwest Engineering's market share in wind energy. The plan explains what aspects of the market will be targeted, and how projects will be executed, while maintaining current expectations in profitability and utilizing existing resources to the extent possible. It also shows the potential revenues and profits available when Midwest Engineering commits to entering this market in a significant way.

1.1 Market Background

Wind energy is growing at an incredible rate in the U.S. In 2006, 2,500 MW of new wind energy projects were installed, and at least 3,000 MW are expected in 2007. There are currently over 13,000 MW of wind installed in the US, with close to 50,000 MW in various stages of development. This growth is driven in part by state renewable portfolio requirements in conjunction with the federal production tax credit (PTC). Midwest Engineering analysts conclude that, to meet current mandates, more than 35,000 MW of new wind projects would be required in the next 15 years^{1,2}. Wind is also showing strong growth in markets without mandates due to wind becoming more cost

¹ Database of State Incentives for Renewables and Efficiency (DSIRE), October 2007.

² Information from <<NAME WITHELD>>, Midwest Engineering Market Analyst

competitive, the price volatility of gas and coal, and the desire of some utilities to show action before mandates are implemented.

Another sign that wind energy is entering the mainstream of energy development is the entry of several large developers and vendors in the fossil energy market into the wind market. Developers such as <<NAME WITHELD>> and <<NAME WITHELD>>, both traditional Midwest Engineering clients in the gas turbine market, are major developers of wind energy. Equipment manufacturers like <<NAME WITHELD>>, <<NAME WITHELD>>, and <<NAME WITHELD>> have become wind turbine suppliers. There are also large utilities like <<NAME WITHELD>> and <<NAME WITHELD>> that are developing wind energy projects for themselves and others. As these more traditional developers and owner's are gaining experience in wind energy, they are showing increased interest in making smarter investments in the design and construction of projects to improve their overall reliability and efficiency. This represents an opportunity for Midwest Engineering to utilize our trusted reputation in fossil energy projects and relationships with owner's to obtain significant market share in wind.

1.2 Product Information

There are two primary categories of products to be offered by Midwest Engineering in wind energy: technical services and turn-key construction. In the area of technical services, Midwest Engineering is already very active in providing owner's engineering, independent engineering, and consulting services. The company has a good reputation in this area, and commands billing rates in line with other areas of consulting (which is significantly higher than large direct engineering projects). Our market share in this area is confined mostly by our resources. Obtaining experienced professionals in this area could significantly increase our revenue.

For construction services, our targeted clients are mostly seeking contractors who can provide engineering, procurement (except for wind turbines, which they procure directly) and construction (EPC) services in a combined package under a single contract. This approach is in line with the manner Midwest Engineering builds fossil power plants, substations, and transmission lines. Furthermore, Midwest Engineering has a significant advantage over current EPC providers in that our engineering resources are in-house, offering the ability to perform all the engineering and construction management from an integrated team without relying upon subcontractors. The current providers of wind energy EPC services do not have this ability, and the quality of the engineering in those projects can suffer because of this. Therefore, our ability to offer integrated teams that

offer high quality engineering and construction, combined with our name recognition and trust, are key competitive advantages.

Midwest Engineering does not need to make significant investments or changes to the company to offer these services. Internal commitments to executing a business plan in wind energy, and to make engineering and construction resources available to wind energy projects are the biggest needs. Wind energy fits well with the skillset of our professionals in the <<DIVISION 1>>, <<DIVISION 2>>, and <<DIVISION 2>> areas. To succeed further, Midwest Engineering needs to establish a structure for working across business lines for doing wind energy construction, and make hiring for wind energy projects a priority.

1.3 Target Clients

Of the <<NUMBER WITHELD>> strategic clients for Midwest Engineering Energy, <<NUMBER WITHELD>> are presently clients for wind energy services, and <<NUMBER WITHELD>> others are known to be active in wind power. Additionally, several other clients have been identified that are already wind energy clients for whom Midwest Engineering has limited scope, but could be significant sources of future work. Cultivating these clients by showing Midwest Engineering's commitment to being a major player in wind energy is likely to provide ample work to match the growth of our wind energy services for the next few years. Also, being active in wind energy allows Midwest Engineering to maintain on-going business relations with these clients, and avoids competitors from engaging with these key companies. If and when Midwest Engineering's resources outpace the work from these clients, our experience base and reputation will aid in the targeted marketing of other potential clients.

With the majority of Midwest Engineering's resources and wind energy experience based in the U.S., this plan focuses on the U.S. market. Wind energy will remain strong in the U.S. for several years to come. While the market is stronger in Europe, so is the competition and Midwest Engineering is not poised to be competitive there. Other markets are emerging, and Midwest Engineering can determine the feasibility of entering those markets once it has established a stronger market presence in the U.S.

1.4 Key Success Factors

To succeed in expanding our wind energy services in the most cost effective manner, four factors have been identified as key:

- **Management Support:** appointment of an executive champion, fostering interdivision cooperation, development of a strong and marketable wind

energy business approach, and supporting the eventual creation of a wind energy business line

- **Investment Needs:** recruiting and directed marketing, and some need for updated specialized tools
- **Marketing Communications:** develop sales kits for Midwest Engineering sales force, perform direct marketing to targeted clients, and inform our likely clients of Midwest Engineering's wind energy services
- **Timing:** move quickly to perform first wind EPC project in 2008, other business expansion paced by staff additions

1.5 Financials

Wind energy currently accounts for about \$<<AMOUNT WITHELD>> million in revenue and about \$<<AMOUNT WITHELD>> in value contribution. This plan maps out a strategy for up to \$<<AMOUNT WITHELD>> million in annual revenue by 2010, with an annual value contribution of \$<<AMOUNT WITHELD>> million.

1.6 Recommendations

In short, this plan is asking for:

- Midwest Engineering Energy management support in prioritizing wind energy projects and authorizing wind energy EPC
- Nomination of an executive-level champion for wind energy at Midwest Engineering
- More aggressive recruiting of experienced wind energy professionals
- Development of a Wind Energy Business Line
- Budget for marketing and updated tools.

2.0 Market Background

The energy market in the U.S. is facing constantly growing pressure to adapt more environmentally friendly methods for generating electricity. Existing renewable portfolio standards requiring renewable energy exist in about half of U.S. states, and a lucrative tax credit exists for renewable energy projects. Additional legislation requiring carbon reduction is being developed on local, state, and national levels. Thus traditional Midwest Engineering clients are facing needs for services in renewable energy, and for much of the U.S. the most economical form of renewable energy is wind power.

Detailed information on the status of and recent changes in the electricity market related to wind energy is provided in this section.

2.1 Recent Market Changes

The renewable energy market has grown to the point where larger energy companies are starting to enter the industry. No longer just a “quaint” or “niche” industry, renewables are being seen as an economically viable business for large companies. Some examples of recent changes indicating the acceptance of renewables by these more traditional companies are given below. These transactions show a general market acceptance that the renewable energy is expected to be viable for the long term.

2.1.1 Equipment Manufacturers

In 2002, **General Electric** purchased the manufacturing assets of Enron Wind to create GE Wind Energy, the only major U.S. manufacturer of utility-scale wind turbines. GE has spent a great amount of resources and time improving the design of GE Wind’s primary wind turbine design. GE Wind now has a market share in the U.S. of about 35 to 40 percent, and order backlog times are starting to reach the levels experience by gas turbines in the late 1990’s.

In 2004, **Siemens** purchased Bonus Wind Energy in Denmark. While slow to get organized, Siemens is now attempting to compete with GE Wind in the strong European and American markets. Siemens has also purchased wind turbine component manufacturers.

Mitsubishi Heavy Industries (MHI) has been a manufacturer of wind turbines since 1980. MHI is active in the U.S. and Asia markets.

In 2001, executives and engineers from Enron Wind formed **Clipper Wind Energy**, and began development of a new turbine design. First deployed in 2007 this design incorporates novel changes to the turbine drivetrain and construction methods. In June 2006, the oil company **BP** invested heavily in Clipper, becoming part owner and

contracting options for over 1,000 MW of turbines for projects BP is developing in the U.S.

2.1.2 Developers

<<NAME WITHELD>>, once a major client of Midwest Engineering in the gas turbine market, has now switched their development focus almost entirely to wind power projects. Since entering the market in 2000 and 2001, <<NAME WITHELD>> has emerged as a dominant developer and owner of wind projects in the U.S., with close to <<AMOUNT WITHELD>> MW of wind projects. <<NAME WITHELD>> recently announced it plans to develop between <<AMOUNT WITHELD>> and <<AMOUNT WITHELD>> MW of wind power projects by 2012. When beginning in the wind energy market, <<NAME WITHELD>> took an approach of lowest-cost engineering construction, utilizing teams or small companies and EPC providers. Recent discussions with <<NAME WITHELD>> have indicated a change in strategy that includes more careful engineering, and interest in seeing Midwest Engineering active in wind energy EPC.

<<NAME WITHELD>> has established wind and solar energy groups. <<NAME WITHELD>> includes a photovoltaics manufacturer. <<NAME WITHELD>> is an owner of wind projects, and is working to become an independent developer of wind projects. <<NAME WITHELD>> has hired Midwest Engineering to be their owner's engineer for the <<NAME WITHELD>> wind energy project now under construction, and to provide pre-construction technical services for the <<NAME WITHELD>>, <<NAME WITHELD>>, and <<NAME WITHELD>> wind energy projects. Midwest Engineering was also hired to provide detailed engineering for the <<NAME WITHELD>> project, but after less than two months of being engaged <<NAME WITHELD>> shut-down the project when they failed to obtain a power purchase agreement.

<<NAME WITHELD>> recently purchased two wind energy developers (<<NAME WITHELD>> and <<NAME WITHELD>>) as well purchasing the development pipeline and a stake in the wind turbine manufacturer <<NAME WITHELD>>.

<<NAME WITHELD>>, development arm of <<NAME WITHELD>>, announced plans this year to invest \$<<AMOUNT WITHELD>> in renewable energy projects over the next five years. It is interesting to note that when <<NAME WITHELD>> recently sold <<NAME WITHELD>> to <<NAME WITHELD>>, it did not sell <<NAME WITHELD>>. <<NAME WITHELD>> was subsequently acquired by <<NAME WITHELD>>, one of the largest owner of wind projects in the world.

Midwest Engineering is currently performing direct engineering for <<NAME WITHELD>> on the substation and electrical collection system of the <<AMOUNT WITHELD>> MW <<NAME WITHELD>> wind energy project in <<LOCATION WITHELD>>.

<<NAME WITHELD>> acquired small wind energy developer <<NAME WITHELD>> in 2004, giving them access to development rights to several projects in <<LOCATION WITHELD>>. In early 2005, <<NAME WITHELD>> purchased <<NAME WITHELD>>, a well established wind energy developer and plant operator. Later in 2005, <<NAME WITHELD>> entered into a joint venture with European renewable energy development giant <<NAME WITHELD>>. Once these deals were completed, <<NAME WITHELD>> announced they had almost <<AMOUNT WITHELD>> MW of renewable energy projects under development in the U.S.

In 2005, <<NAME WITHELD>> purchased wind energy developer <<NAME WITHELD>>, creating <<NAME WITHELD>>. In response to the seller's market in 2007, <<NAME WITHELD>> sold <<NAME WITHELD>> to <<NAME WITHELD>> for over \$<<AMOUNT WITHELD>>.

2.1.3 Utilities

Many utilities have become comfortable with wind energy as a technology, and find that developing and owning projects are a better fit than signing a power purchase agreement with a developer. Examples of these utilities are provided below.

<<NAME WITHELD>>, now owned by <<NAME WITHELD>> which also owns the utility <<NAME WITHELD>>, has begun self-developing wind energy projects and has announced a commitment to develop <<AMOUNT WITHELD>> MW of wind energy by 2015. <<NAME WITHELD>> has long been the leading utility owner of wind projects in the U.S, and owns over <<AMOUNT WITHELD>>MW of wind projects with an additional <<AMOUNT WITHELD>> MW under development.

<<NAME WITHELD>>, the utility serving <<LOCATION WITHELD>> and surrounding areas of <<LOCATION WITHELD>>, is self-developing up to <<AMOUNT WITHELD>> MW of wind energy.

<<NAME WITHELD>>, the parent company of <<NAME WITHELD>>, has decided to self-develop a single, multi-phase <<AMOUNT WITHELD>> MW wind energy project. All <<LOCATION WITHELD>> investor-owned utilities have a significant requirement to develop renewable energy, and <<NAME WITHELD>> has made the least progress toward meeting this goal. They therefore have an aggressive program in place to meet much of this need with a single project.

<<NAME WITHELD>> is the largest purchaser of wind energy in the US, and recently announced an initiative to develop and/or purchase wind projects for ownership.

<<NAME WITHELD>> is working on a combination of self-develop and power purchase agreements for wind and other renewable energy projects. Midwest Engineering is supporting the development efforts on three wind projects, providing owner's engineering support for a wind project being developed by a private developer, and supporting the utility's third RFP.

<<NAME WITHELD>> developed the <<NAME WITHELD>> project in 2004, after a siting study performed by Midwest Engineering. <<NAME WITHELD>> is now beginning the efforts to self-develop another wind energy project, likely to be built around 2010.

The <<NAME WITHELD>> and <<NAME WITHELD>> are examples of <<NAME WITHELD>> interested in integrating wind energy onto their systems to directly satisfy their energy needs. There is a growing trend of large electric consumers like <<NAME WITHELD>> using wind energy, and represent an opportunity to offer wind energy through a combined business approach.

There are also many other utilities looking to add wind energy onto their systems through Independent Power Producers and Power Purchase Agreements. Midwest Engineering occasionally provide services to these utilities to support these purchases and their overall renewables strategy. While these utilities are not likely to be clients for wind EPC services, they are likely to continue to be clients for technical services. Some utilities recently served by Midwest Engineering in the capacity include:

- <<NAME WITHELD>>
- <<NAME WITHELD>>
- <<NAME WITHELD>>
- <<NAME WITHELD>>
- <<NAME WITHELD>>
- <<NAME WITHELD>>
- <<NAME WITHELD>>
- <<NAME WITHELD>>

2.2 Target Market

Through the <<NAME WITHELD>> division, Midwest Engineering offers renewable energy consulting in all renewable energy technologies, as well as strategic support for utilities and companies developing plans for renewable energy development or investment. Midwest Engineering has the expertise, market intelligence, and industry acceptance to significantly expand these services and perform detailed design and

construction of renewable energy projects. As wind is currently the most mature and viable renewable technology, it is logical to begin with this technology for renewable energy EPC services.

In the early 2000's, Midwest Engineering had attempted unsuccessfully to win EPC contracts for wind energy projects. Due to the market changes discussed above, it is better timing now for Midwest Engineering to be successful in wind energy EPC. However, it is important to be selective in the locations, clients, and scopes of service offered to be successful. These aspects of the market to be targeted are discussed below and in subsequent sections of this plan.

2.2.1 Geography

The renewable energy market is expected to be strong across the U.S (11,603 MW at the end of 2006, 21 percent growth in 2006), with different technologies favored in different areas due to resource levels and power needs. The drivers for many of areas are regulatory, due to requirements for green energy purchases through Renewable Portfolio Standards (RPS). Figure 2-1 shows the current requirements across the country. States with an RPS are the most likely to develop renewable energy projects, and those with recent RPS legislation are most likely to require strategic support to develop plans to meet their requirements.

As indicated earlier, wind energy is the most economical renewable energy technology in many areas of the country. Figure 2-2 shows the amount of wind energy installed by state at the beginning of 2007. It can be seen that wind energy has been installed in significant levels in states without RPS requirements. There are several reasons for this. Wind energy is quicker to develop and less risky than some forms of fossil generation. Also, a secondary aspect of RPS implementation is action by utilities in non-RPS states to develop renewable energy plans and projects to show progress in hopes of avoiding RPS legislation.

As discussed in Section 2.3, the companies Midwest Engineering should initially focus on for wind energy EPC and owner's engineering services are the larger national developers (such as <<NAME WITHELD>> and <<NAME WITHELD>>) and utilities that are currently Midwest Engineering clients in other areas and are likely to self-develop renewable energy projects. Of the utilities likely to self-develop renewable energy projects, those located in the Northeast, Midwest, and Western regions of the U.S. are more likely to choose wind energy as the technology to develop due to abundance of strong wind resources.

Wind energy development is also strong in Canada (1,500 MW, 50 percent growth in 2006), and set for growth throughout North America and the Caribbean. Wind

energy remains very strong in Europe (totaling 48,500 MW, 15 percent growth in 2006), and are being used increasingly in Asia (10,700 MW, 35 percent growth in 2006)³. Due to the very strong U.S. market and current resource constraints, the Wind Energy Team has remained focused on the U.S. The market for expanded wind energy services appears to be the strongest in the U.S., given Midwest Engineering's presence in the U.S. and the maturity of the wind industry in Europe. With Midwest Engineering's construction services concentrated in the U.S. and the risks associated with international projects, construction of wind projects outside the U.S. does not appear currently viable.

³ Global Wind Energy Council, *Global Wind Energy Markets Continue to Boom – 2006 Another Record Year*, Feb. 2007

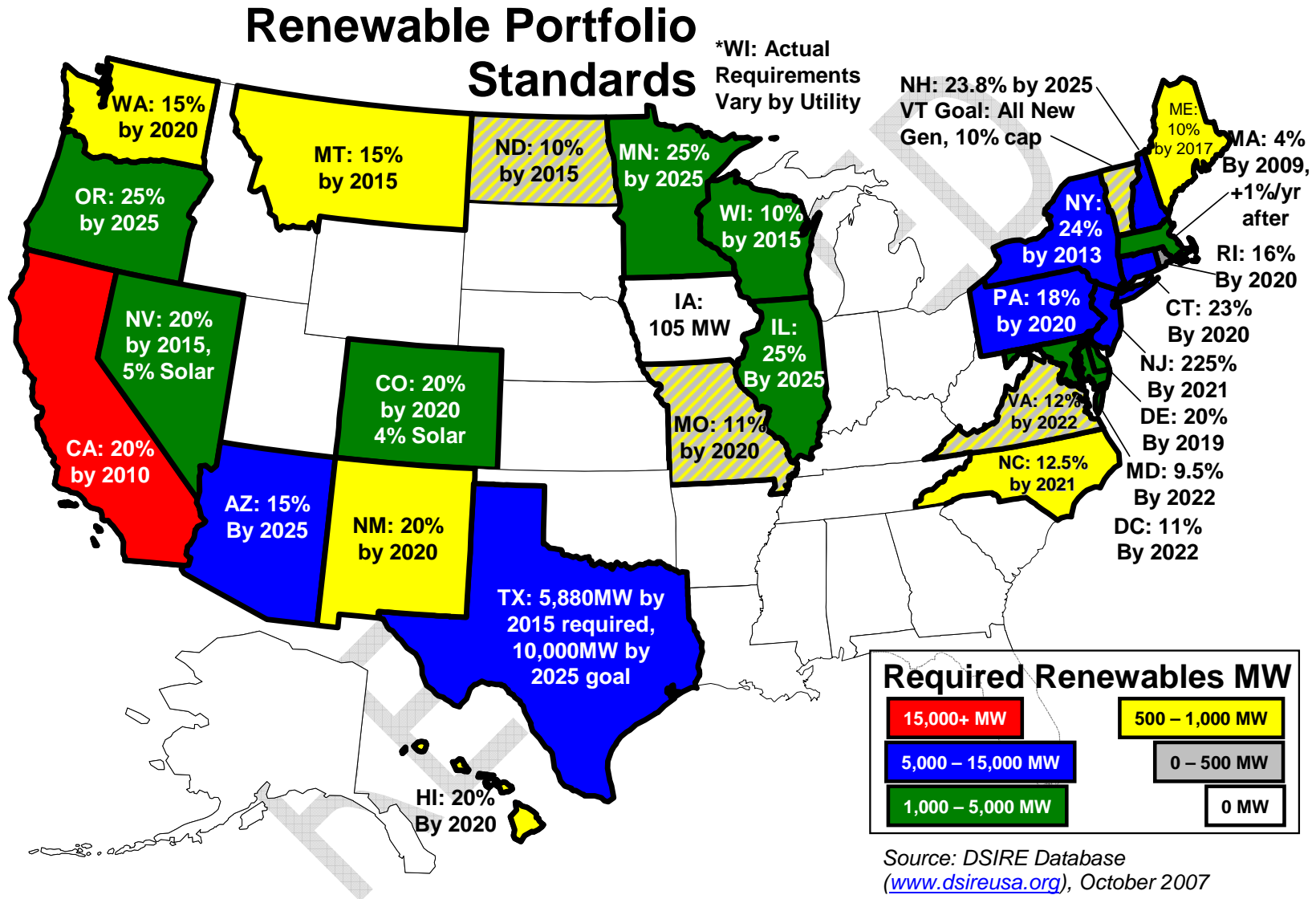


Figure 2-1 Renewable Portfolio Standards

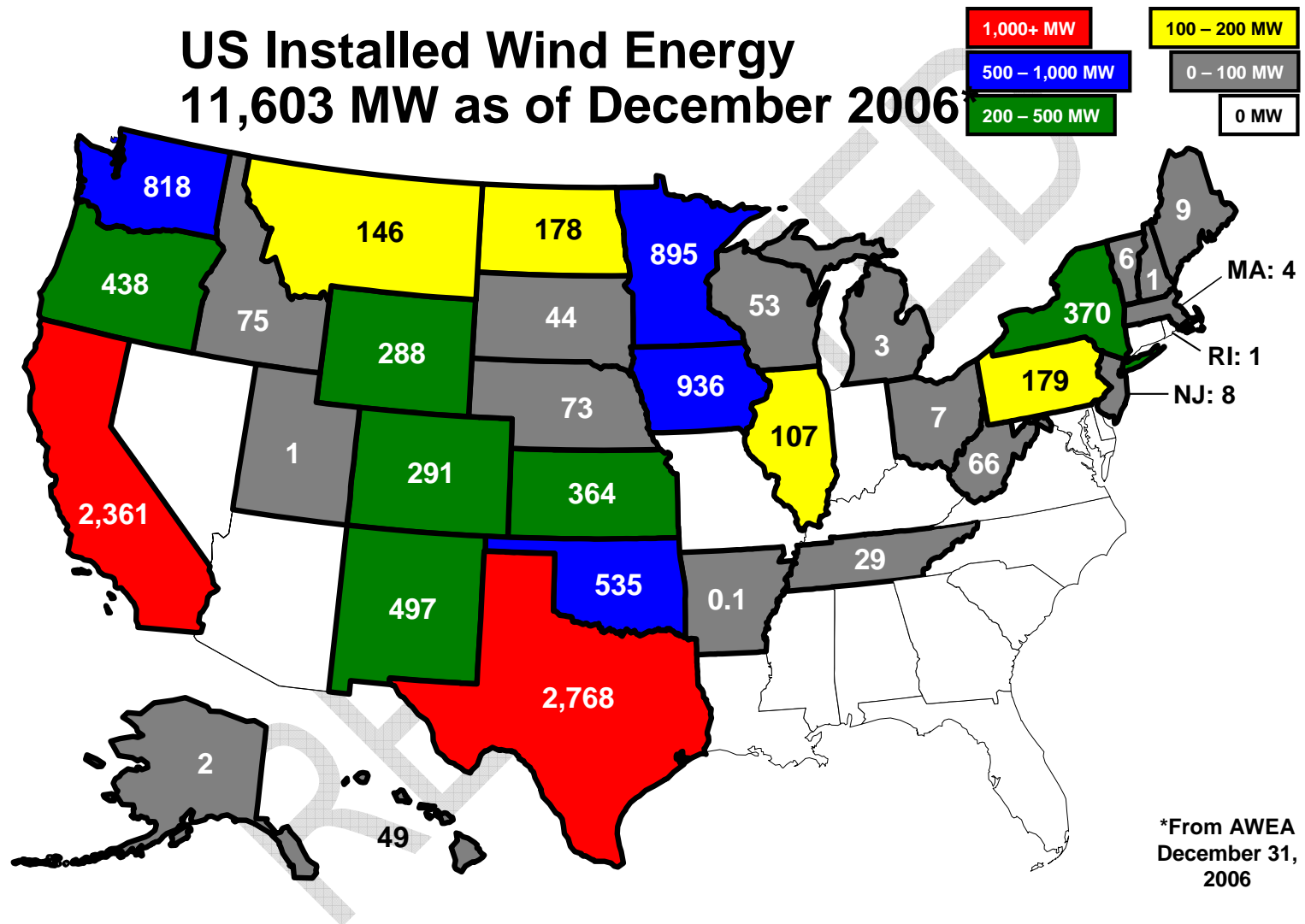


Figure 2-2 Wind Energy Installed by State

2.2.2 Industry

The target industries for wind energy technical services are utilities, developers, project financiers, energy intensive industries, and development agencies. The targeted industries for wind energy construction are utilities and large developers only.

2.2.3 Size, Growth Trends

The current and future market indicators for wind energy are reported as:

- 74,000 MW = current wind energy installed worldwide⁴
- 13,000 MW = current wind energy installed in the U.S.⁵
- 50,000 MW = wind energy under development in the U.S.
- 2,500 MW = wind energy installed in the U.S. in 2006⁴
- 3,000 MW = wind energy expected to be installed in 2007
- \$23 billion = total investment in 2006 worldwide wind projects⁴
- \$3.7 billion = investment into 2006 U.S. wind projects (estimate)
- \$1.0 billion = investment in development, engineering, and construction of 2006 U.S. wind projects (estimate)
- 80 to 150 MW = typical wind farm size (estimate)
- 1.5 to 2.5 MW = typical wind turbine capacity (estimate)

2.3 Clients

As with all businesses, existing clients remain our best source for future work. This is true for wind energy in two ways: existing Midwest Engineering clients who are getting into wind energy, and existing Renewable Energy Group clients who are comfortable with our technical services and may want to expand our role into detailed engineering and construction. The Wind Energy Team has organized current and prospective clients into the following categories:

- **Strategic/Long-Term:** Those <<AMOUNT WITHELD>> clients identified by Midwest Engineering Energy management as the most important for significant amounts of long-term assignments.
- **Targeted:** Clients likely to be good, long-term sources of wind energy work because they recognize the value Midwest Engineering brings to projects. Clients may already be strong Midwest Engineering clients in other areas.

⁴ Global Wind Energy Council, *Global Wind Energy Markets Continue to Boom – 2006 Another Record Year*, Feb. 2007

⁵ Wind Energy Indicator, *Windpower Monthly*, Sept 2007

- **Walk-Ins:** Clients who have expressed interest in Midwest Engineering performing work for them and who would recognize the value that Midwest Engineering brings to projects, but who are not likely to be long-term sources of significant amounts of work.
- **Opportunistic:** Clients who may not be long-term sources of potential wind energy work nor truly recognize the value Midwest Engineering brings to a project (at least in wind energy), and whom Midwest Engineering would likely only perform work for if there was an additional strategic reason to do so.

The Wind Energy Team has further organized the companies by whether the work performed by Midwest Engineering (or at least a significant portion) to date has been focused on renewable energy projects.

Identified clients are shown in Table 2-1, recognizing there will be some overlap with a few clients possibly belonging in multiple groups. This is not intended to be an exhaustive list of all possible clients, but rather a summary of well known clients or those who Midwest Engineering is already supporting.

Table 2-1 Client Designations		
Category	Renewable Energy Focused	Non-Renewable Energy Focused
Strategic/Long-Term	<<NAMES WITHELD>>	<<NAMES WITHELD>>
Targeted	<<NAMES WITHELD>>	<<NAMES WITHELD>>
Walk-Ins	<<NAMES WITHELD>>	<<NAMES WITHELD>>
Opportunistic	<<NAMES WITHELD>>	<<NAMES WITHELD>>
Notes: Renewable Energy Focused: Company work to date mostly in renewables, opportunities strong in wind. Non-Renewable Energy Focused: Company work to date mostly outside renewables, opportunities weaker or unknown in wind		

2.3.1 Strategic and Long-Term Clients

Strategic clients are those designated by senior Midwest Engineering management as the best potential sources of significant long-term work. The renewable energy focused clients are ones already comfortable with Midwest Engineering’s skills in renewable energy, and will have a long-term continuing need for support in this area. It

is in the best interest of Midwest Engineering to focus efforts on supporting these clients and maintaining strong ties. This could include relocating a renewable energy team member to a Midwest Engineering office close to the client, if the client would deem that of value. Also, a senior Midwest Engineering manager should have regular interaction with the client, and handle the contact arrangements. Some specific ideas of each renewable energy client listed are below:

<<NAME WITHELD>>. Midwest Engineering is performing owner's engineering services for <<AMOUNT WITHELD>> <<NAME WITHELD>> projects, and is working with <<NAME WITHELD>> to provide <<INFORMATION WITHELD>> services for <<INFORMATION WITHELD>>. <<NAME WITHELD>> is a great source for significant continuing support for both renewable and non-renewable energy work, a fact recognized by <<NAME WITHELD>> inclusion in the <<NAME WITHELD>>. Some Midwest Engineering staff have already been relocated to <<NAME WITHELD>> for that project. Discussions with <<NAME WITHELD>> to date have not indicated a desire for Midwest Engineering to be located at their offices, although <<NAME WITHELD>> has sent a project manager to our offices during periods of significant engineering effort. For <<NAME WITHELD>>, the key seems to be in building a strong relationship and being responsive to schedule constraints. While well aware of what engineering and construction services can cost from other vendors, <<NAME WITHELD>> seems less concerned with absolute lowest cost as they are on obtaining good work and having a reliable partner.

<<NAME WITHELD>>. As the parent company for <<NAME WITHELD>>, <<NAME WITHELD>> is facing a significant requirement to add renewable energy. Unlike the other <<LOCATION WITHELD>> Investor-Owned Utilities (IOU's), <<NAME WITHELD>> has decided to self-develop a significant amount of renewable energy projects both for themselves and other utilities. Midwest Engineering is currently supporting <<NAME WITHELD>> <<AMOUNT WITHELD>> MW wind energy development in <<LOCATION WITHELD>>, as well as early efforts in <<NAME WITHELD>> projects. An earlier effort to obtain the owner's engineering services for a large <<NAME WITHELD>> project was not successful.

<<NAME WITHELD>> has been a major client of Midwest Engineering in the gas turbine market. In the early 2000's, <<NAME WITHELD>> switched over almost all of their development activities to wind energy. In July 2007 <<NAME WITHELD>> announced a plan to develop and build between <<AMOUNT WITHELD>> and <<AMOUNT WITHELD>> MW of new wind energy projects by the end of 2012. Soon thereafter <<NAME WITHELD>> invited Midwest Engineering to meet with them and discuss Midwest Engineering's interest in providing EPC services on a competitive basis.

The remaining strategic clients are either not engaged in wind energy projects, or have not showed significant interest in Midwest Engineering providing services in that area. As Midwest Engineering sales staff call on these clients often, it is important for those staff to understand what Midwest Engineering's capabilities are in this technology, and listen for any indications these clients may be showing interest in wind.

2.3.2 Targeted

Targeted clients are those who could be very good clients for wind energy services at Midwest Engineering, but may not be traditional Midwest Engineering clients nor significant clients for other business areas.

<<NAME WITHELD>> is a utility in <<LOCATION WITHELD>>. When acquired by <<NAME WITHELD>>, <<NAME WITHELD>> management made a public commitment to add over <<AMOUNT WITHELD>> MW of wind energy onto their system by 2015. <<NAME WITHELD>> management has decided the majority of that development will be done by the utility, either through acquiring projects in the development stage or by self-developing sites. Also, due to regulations affecting the utility's operation, each project (or individual phase) must be <<AMOUNT WITHELD>> MW or lower, meaning <<NAME WITHELD>> will need to develop at least <<AMOUNT WITHELD>> projects in the next few years. <<NAME WITHELD>> has a technical services agreement with Midwest Engineering covering a wide range of services, and has engaged Midwest Engineering as owner's engineer for at least <<AMOUNT WITHELD>> projects being built in 2007 or 2008.

<<NAME WITHELD>> is the non-regulated development arm of <<NAME WITHELD>>. <<NAME WITHELD>> has become a major developer and owner of wind projects in the U.S. To date the only wind energy work performed for <<NAME WITHELD>> has been plant inspections of a manufacturer of wind turbines by Midwest Engineering professionals in our <<LOCATION WITHELD>> office. There appears to be a great deal more work potential from <<NAME WITHELD>> in the design and construction area.

<<NAME WITHELD>> is the national utility of <<LOCATION WITHELD>>. In 2007, Midwest Engineering began to perform significant owner's engineering work for <<NAME WITHELD>> in support of their new coal plant initiative. Along with that work, <<NAME WITHELD>> has engaged Midwest Engineering to provide owner's engineering support for the <<AMOUNT WITHELD>> MW <<NAME WITHELD>> wind energy project, to be completed by 2010. Given the location and the intended design and construction approach, Midwest Engineering is already engaged in as much

work as possible for this client on this project. However, if <<NAME WITHELD>> chooses to built future projects, Midwest Engineering can look to provide similar services. <<NAME WITHELD>> is an excellent example of Midwest Engineering providing wind energy services as part of a complete package of technical services, giving us a competitive edge over other firms that only offer either fossil or renewable energy services.

<<NAME WITHELD>>. Midwest Engineering has begun working with <<NAME WITHELD>> for the <<NAME WITHELD>> program, and to date has been contracted for about \$<<AMOUNT WITHELD>> in revenue. <<NAME WITHELD>> likes to select multiple bidders for large services contracts. While they indicate they will then conduct mini-RFP's for each work order, they are too resource constrained to do so, and to date have direct-awarded all work orders. Midwest Engineering has developed a good relationship with <<NAME WITHELD>>, who has big plans for many small wind and other projects in the coming years. The current contract with <<NAME WITHELD>> has been extended to 2008. Based on the potential for significant amounts of work from <<NAME WITHELD>>, and the general strong potential for significant renewable energy work in the <<LOCATION WITHELD>> (see Section 2.2.1), it may make sense to locate at least one renewable energy team member in <<LOCATION WITHELD>>. <<NAME WITHELD>> is exploring an individual in the <<LOCATION WITHELD>> area, and there is potential to share this individual between <<NAME WITHELD>> and <<NAME WITHELD>> so that he could manage the work with <<NAME WITHELD>>. The potential at <<NAME WITHELD>> will only be for technical services, not wind EPC.

The <<NAME WITHELD>> is the wastewater utility for the <<LOCATION WITHELD>> area. <<NAME WITHELD>> is a major client for the Midwest Engineering <<NAME WITHELD>> division, and is one of the primary reasons Midwest Engineering maintains a <<LOCATION WITHELD>> office. Midwest Engineering is supporting <<NAME WITHELD>> program to install wind turbines at as many of their facilities as is feasible, to lower energy costs and display their environmental stewardship. There is potential to replicate these services with other <<NAME WITHELD>> clients in a combined business manner, and to date the Wind Energy Team has had good success in cooperating with <<NAME WITHELD>> on similar projects.

<<NAME WITHELD>>, like <<NAME WITHELD>>, has been a significant client to Midwest Engineering in years past in fossil and co-generation projects. Despite <<NAME WITHELD>> large investment in wind energy project development, including a plan to invest \$<<AMOUNT WITHELD>> in renewable energy projects over the next

five years, Midwest Engineering has not been engaged to support these projects until lately. Midwest Engineering is currently performing direct engineering for <<NAME WITHELD>> on the substation and electrical collection system of the <<AMOUNT WITHELD>> MW <<NAME WITHELD>> wind energy project in <<LOCATION WITHELD>>. While this is significant progress, <<NAME WITHELD>> is still only engaging Midwest Engineering to perform <<NAME WITHELD>> type projects, rather than seeing us as source of integrated engineering for all aspects of the design of a wind project.

<<NAME WITHELD>> is a large consumer of wind energy, and has recently begun a self-development initiative for new wind projects. While Midwest Engineering has done a great deal of work for <<NAME WITHELD>> in other areas, no wind energy services have been provided to date. Midwest Engineering maintains sufficient contacts at <<NAME WITHELD>> to market our wind energy services, but had not done so to date due to resource constraints.

<<NAME WITHELD>> is another company that has begin investigating adding wind energy to some of their major operations, as well as developing independent projects near their facilities. Midwest Engineering has been in discussions with <<NAME WITHELD>> about performing engineering services to support these projects, but has not been engaged to date.

2.3.3 Walk-Ins

These are the clients who approached Midwest Engineering about performing work in the area of renewable energy. These are clients who appear to be a good fit for the strengths Midwest Engineering offers, but do not show the promise for as much work as strategic or targeted clients. Because they already show a strong interest in Midwest Engineering and are willing to engage without a difficult proposal process, work for these clients should be performed where resources allow.

<<NAME WITHELD>> is the utility for the <<LOCATION WITHELD>> area, and covers portions of <<LOCATION WITHELD>>. <<NAME WITHELD>> is in the process of selecting a <<AMOUNT WITHELD>> MW wind project for their <<LOCATION WITHELD>> operations, and is awaiting legislation before beginning the RFP process in <<LOCATION WITHELD>>. Midwest Engineering developed the <<LOCATION WITHELD>> wind energy RFP and is supporting the bid evaluation, and will likely continue to provide technical support services through the development of that project. At present, <<NAME WITHELD>> is only interested in a single project, and will likely have the selected developer perform all engineering and construction.

<<NAME WITHELD>> is the large company active throughout <<LOCATION WITHELD>>. Midwest Engineering has examined several of their facilities, looking for opportunities to develop wind projects that could offset their cost for electricity. If <<NAME WITHELD>> were to choose to go forward on such a project, it would be likely that they would engage Midwest Engineering to provide owner's engineering support services based on our current good relationship and their satisfaction in the work provided to date.

<<NAME WITHELD>> is a major <<LOCATION WITHELD>> firm that owns and operates hydroelectric and other power assets. Midwest Engineering has supported <<NAME WITHELD>> review of two major U.S. wind developers that were for sale, and well as provided some technical guidance on a self-development project. <<NAME WITHELD>> is a major client for the <<NAME WITHELD>> division. The Wind Energy Team has to date just provided technical support for <<NAME WITHELD>> projects. If <<NAME WITHELD>> continues to work toward self-development, they would be a good potential client of owner's engineering and possible EPC services.

2.3.4 Opportunistic

These clients do not show the potential for long-term work nor a strong fit for the strengths of Midwest Engineering. They may offer specific, often small projects that have merit for Midwest Engineering to perform, and contain a significant opportunity to gain experience in an important aspect of wind energy. In general, opportunities with these clients should be pursued only if resources allow or if the work is deemed necessary for future projects with stronger clients.

<<NAME WITHELD>> is a relatively large developer and owner of wind energy projects. In 2006, <<NAME WITHELD>> acquired <<NAME WITHELD>>, a small wind energy developer engaged in projects primarily in <<LOCATION WITHELD>>. <<NAME WITHELD>> was joint developing a wind project with <<NAME WITHELD>>, and through that relationship Midwest Engineering was asked to provide owner's engineering support for a specific project in <<LOCATION WITHELD>>. After the acquisition, <<NAME WITHELD>> purchased <<NAME WITHELD>> stake in the development. After that purchase, <<NAME WITHELD>> significantly limited the scope of Midwest Engineering's work to include only technical support on the project's <<INFORMATION WITHELD>>. Given the limitations on resources and the increasing work for other clients Midwest Engineering may have declined the limited scope; however having experience in the <<INFORMATION WITHELD>> <<NAME WITHELD>> was developing was deemed beneficial to

Midwest Engineering. Once that activity is completed, Midwest Engineering will likely not work with <<NAME WITHELD>> unless another similar beneficial task is offered and resources are available to support it.

<<NAME WITHELD>> invested in a <<AMOUNT WITHELD>> MW wind energy project in 2006, and is actively working to add at least <<AMOUNT WITHELD>> MW more by 2012. They have utilized some minor consulting services from Midwest Engineering to date for these projects, but has expressed only limited interest in Midwest Engineering performing owner's engineering services. Overall <<NAME WITHELD>> has not been a major client for Midwest Engineering, and therefore the Wind Team has not advocated expending serious efforts to market to them.

2.4 Suppliers

For the most part, Midwest Engineering maintains the ability to provide all critical wind energy design and consulting services without engaging subcontractors. In those instances that Midwest Engineering has built a project team that included other firms, the subcontractors were added mostly to improve experience, add a local presence, or reduce cost. As we do not need to necessarily subcontract outside Midwest Engineering to perform these services, the subcontractors do not have a significant amount of overall leverage. It is conceivable that, for a certain project, the engagement of a specific subcontractor may be a requirement, which would lead to a different leverage condition. This situation will likely be infrequent.

Midwest Engineering has formed numerous informal relationships with past and potential subcontractors (such as specialty meteorologists or geotechnical experts). These relationships are valuable and should continue to be nurtured.

For wind energy EPC services, Midwest Engineering would perform all engineering internally (doing so is a strength over other EPC firms active in wind energy). Procurement can be done by Midwest Engineering, although virtually all developers or utilities would procure the wind turbines themselves years before the project would be built. For construction, Midwest Engineering has the ability to direct perform all aspects of the project with exception of the site civil work (roads, pads, cable trenching), which would likely be performed by a local contractor. While Midwest Engineering has the ability to perform the placement of the underground electrical collection system and build the substation, there may be instances where it makes more sense to engage a subcontractor for a portion of this work. Similarly, Midwest Engineering has the ability to erect the turbines, but would likely subcontract that to a crane provider. That decision would need to be made by the Construction Division on a project basis.

2.5 Complementors

Given the size and resources of Midwest Engineering, we have unique complementors that our competition cannot match. Those complementors, described below, bring a unique value to our clients that should be highlighted in the sales and planning stages.

2.5.1 Internal

The internal complementors to wind energy services at Midwest Engineering are the resources and abilities of the firm that are outside <<NAME WITHELD>>. The greatest of this is the Construction Division. No other wind EPC contractor has near the resources internally to directly perform both engineering and construction, and experience has shown that such contractors often have difficulty providing quality engineering services. Combining these services under a common project manager is a strength that should be stressed to clients.

Other divisions with Midwest Engineering also bring a great deal of value to our clients depending upon the needs of the project. A division that could commonly support wind projects would be <<NAME WITHELD>>, that can apply their expertise to the substation and transmission line design, and have far more experience than many other engineers often engaged for that service in wind energy. Also, the Renewable Energy Team has worked with the <<NAME WITHELD>> and <<NAME WITHELD>> to address specific needs of clients, and to leverage the non-Energy offices throughout the country.

2.5.2 External

There are some specialty needs that do not represent sufficient work for Midwest Engineering to develop internal experts. Midwest Engineering has been proactive to develop relationships with providers of some of these services, and will continue to do so to bring a complete package of technical solutions for our clients. Two such specialty subcontractors are described below.

For wind energy meteorology support, Midwest Engineering often engages <<NAME WITHELD>>. This firm, through its principal <<NAME WITHELD>>, is recognized throughout the industry as an expert in determining the best possible locations for wind turbines on a project site, and for estimating the generation potential of those locations. While this is a service Midwest Engineering provides to clients through internal resources at the conceptual stage of project development, we recommend these experts be brought into a project as it nears the design stage. As such, the Renewable Energy Team has established a standard contract with <<NAME WITHELD>>, as well

as rates and confidentiality terms that allow for <<NAME WITHELD>> to support projects as though he were a Midwest Engineering employee. More than once our ability to quickly engage <<NAME WITHELD>> has been a benefit to our clients and projects.

Another specialty company that Midwest Engineering commonly engages is <<NAME WITHELD>>. This company has unique abilities to provide design guidance for a wind project's collection system based on soil samples taken on-site. Midwest Engineering commonly utilizes <<NAME WITHELD>> for wind energy and other technology projects, and has established a good working relationship. Having that established enables Midwest Engineering to provide complete engineering services without needing the client to established another project contract.

2.6 Substitutes

For wind EPC services, there are two general approaches open to most clients. The first is to engage a company like Midwest Engineering to provide complete EPC services, and for the client to maintain control of the project through that single contract (plus, often, a separate contract for the supply of the wind turbines). The substitute for those services is for the client to act as the project's general contractor, and perform the construction management themselves. There are a few developers (such as <<NAME WITHELD>> and <<NAME WITHELD>>) that commonly use this approach, developing several contractors for each item of work. Since the majority of clients for wind energy projects utilize the EPC approach, Midwest Engineering should not target those client who choose instead to manage construction internally. Midwest Engineering would not bring sufficient value to such a project to be competitive against much smaller specialty contractors.

2.7 Competitive Landscape

For wind energy design and consulting services, the majority of firms very active in the U.S. market are smaller "boutique" firms. These firms do not have the name recognition in the utility business that Midwest Engineering has, but are well established in the wind energy business (where Midwest Engineering's name is often unknown). An example of a specific boutique competitor for wind energy services is <<NAME WITHELD>>. <<NAME WITHELD>> is recognized as a leader in due diligence and independent engineering services for wind power. They offer good services and have developed a software simulation tool (<<NAME WITHELD>>) that is considered an industry standard. They are headquartered in the <<LOCATION WITHELD>>, but have recently established a relatively large staff in <<LOCATION WITHELD>>. Due to their establishment in the market without significant competition, <<NAME WITHELD>> is

now established as the preferred provider for these services, and are involved in nearly every wind energy project in the <<LOCATION WITHELD>>. Keys to their success appear to include:

- Significant investment in their technical skillset. <<NAME WITHELD>> is highly respected in offering independent reviews of wind turbine technologies, and they maintain this by being proactive in understanding each wind turbine vendor and their technology. <<NAME WITHELD>> engineers will maintain contact with turbine vendors and understand new products before clients hire them to perform evaluations.
- Development of software packages that support their work, and marketing that software to the wind energy industry. By creating packages commonly used by developers, it increases their likeness of being hired to provide additional support as industry experts.
- Establishing large offices near large markets. <<NAME WITHELD>> has not attempted to perform all their services from their headquarters, but rather have established offices in key market centers. These offices are not for marketing or sales only, but contain experts trained through their <<LOCATION WITHELD>> center.
- Aggressively protecting their key clients. <<NAME WITHELD>> largest client base are the banks and investors for wind energy projects. By staying very responsive to these clients and targeting their analysis and reports to those aspects important to the investors, <<NAME WITHELD>> has kept other firms from establishing much of a market share in this area. An example would be, when they were having quality issues at their newly established <<LOCATION WITHELD>> office, <<NAME WITHELD>> to immediate and visible corrective measures to keep their clients from seeking other consultants.

Some larger competitors have created significant wind energy businesses, and are now poised to be serious competitors to Midwest Engineering. The largest is probably <<NAME WITHELD>>, an international engineering and construction firm with approximately twice the staff of Midwest Engineering. <<NAME WITHELD>> has established a strong wind energy business, and is a leader in wind energy permitting and environmental services. <<NAME WITHELD>> is also interested in further expansion into engineering and construction of wind energy projects, but does not have the energy EPC reputation that Midwest Engineering does. This gives Midwest Engineering a temporary advantage in wind energy EPC over <<NAME WITHELD>>, but this

advantage is not believed to be large nor long-lasting. Midwest Engineering also competed with <<NAME WITHELD>> for the work with <<NAME WITHELD>>, so <<NAME WITHELD>> is also likely working to increase their market share in wind energy.

For wind energy EPC services, the majority of projects are built by the following contractors (listed roughly by market capture:

- <<NAME WITHELD>>: <<NAME WITHELD>> is believed to be the largest builder of wind energy projects in the U.S. With <<AMOUNT WITHELD>> projects completed representing nearly <<AMOUNT WITHELD>> MW and <<AMOUNT WITHELD>> MW under construction, <<NAME WITHELD>> has more experience than any other single firm in U.S.. It is also known that <<NAME WITHELD>> is committed until at least 2009 with future projects, and is not currently bidding on any other projects. Through our role as owner's engineer on the <<NAME WITHELD>> project, Midwest Engineering has had the opportunity to witness <<NAME WITHELD>> execution of wind projects. While aspects of their safety program appear excellent, the design and construction activities for this project have not been in line with Midwest Engineering standards, and in some instances are below good industry practice. Midwest Engineering recently sent a construction observer to another <<NAME WITHELD>> project (<<NAME WITHELD>> for <<NAME WITHELD>>). It will be educational to see if the poor execution of <<NAME WITHELD>> is an isolated instance. It is also worth noting that, aside from wind energy, <<NAME WITHELD>> is not known to be a major contractor for energy projects. <<NAME WITHELD>> largest business area appears to be commercial construction, especially large arenas and complexes.
- <<NAME WITHELD>>: <<NAME WITHELD>> is a construction company owned by the utility <<NAME WITHELD>>. Their web site claims to have completed <<AMOUNT WITHELD>> projects totaling <<AMOUNT WITHELD>> MW of wind energy since 1999. <<NAME WITHELD>> also markets development support services, such as permitting and site selection support. Midwest Engineering professionals have monitored the construction of a project in <<LOCATION WITHELD>> being built by <<NAME WITHELD>>, and found them to be competent and good with landowners. <<NAME WITHELD>> is part

of <<NAME WITHELD>>, which also provides environmental and energy engineering and construction outside wind energy.

- <<NAME WITHELD>>: <<NAME WITHELD>> is both a wind energy developer and EPC contractor. Owned by <<NAME WITHELD>>, the company claims to have built <<AMOUNT WITHELD>> percent of the wind energy projects in the country. This includes over <<AMOUNT WITHELD>> MW of wind projects completed in <<AMOUNT WITHELD>> states, and <<AMOUNT WITHELD>> MW of projects currently under construction.
- <<NAME WITHELD>>: <<NAME WITHELD>> bills itself as a heavy civil contractor and provider of construction management services. Based in <<LOCATION WITHELD>>, <<NAME WITHELD>> is known to be one of the largest providers of wind EPC services. However, no information regarding their experience base is listed on-line.
- <<NAME WITHELD>>: <<NAME WITHELD>> is a relatively small privately-owned construction company based in <<LOCATION WITHELD>>. Their web site lists <<AMOUNT WITHELD>> completed wind projects between 2005 and 2007, with <<AMOUNT WITHELD>> more currently under construction in the U.S. and Canada. The size range of projects completed is between <<AMOUNTS WITHELD>> MW.
- <<NAME WITHELD>>: <<NAME WITHELD>> is a small company headquartered in <<LOCATION WITHELD>>. Their primary business areas are construction of wind energy projects in the U.S.. Active since 2002, <<NAME WITHELD>> is known to have built only <<AMOUNT WITHELD>> projects, totaling just over <<AMOUNT WITHELD>> MW. Although not clear from their literature, it is believed <<NAME WITHELD>> has no direct construction resources, and subcontracts all engineering and construction services while providing project management.
- <<NAME WITHELD>>: Although primarily a crane company, <<NAME WITHELD>> has recently begun providing complete EPC services for wind energy projects. Based on <<LOCATION WITHELD>>, the vast majority of <<NAME WITHELD>> experience is in <<LOCATION WITHELD>>.
- <<NAME WITHELD>>: <<NAME WITHELD>> offers a range of industrial construction services, but is a relatively small builder of wind

energy projects. <<NAME WITHELD>> is only known to have built <<AMOUNT WITHELD>> projects in the last few years.

- <<NAME WITHELD>>: <<NAME WITHELD>> is a fairly large engineering and construction firm active in environmental management and water infrastructure systems. In the past, <<NAME WITHELD>> had primarily supported wind energy projects in the areas of permitting and civil works, but in late 2007 expanded their services to include full EPC services. To achieve this, <<NAME WITHELD>> hired a very experienced construction manager from <<NAME WITHELD>> to lead their wind construction efforts.

Traditional EPC firms that compete with Midwest Engineering in fossil generation projects are not commonly found in wind energy projects. These include companies such as <<NAME WITHELD>>, and <<NAME WITHELD>>. Midwest Engineering is aware that some firms, such as <<NAME WITHELD>> and <<NAME WITHELD>>, are looking into wind energy and are likely to compete in the coming years. Some of these firms offer consulting services, but not on a large basis and generally in combination with services on other technologies.

On some limited cases, the wind turbine vendors will also directly perform project construction. These are typically only for very small projects. Given the limited market and unique arrangements for such construction, these are not considered to be competition for Midwest Engineering in wind EPC services.

As can be seen from the list above, the number and size of current EPC contractors experienced in wind energy are limited. There is also growing concern that these companies are not maintaining quality on their projects. The market is ready for large, recognized engineering and construction firm like Midwest Engineering to enter the market in a very big way (as can be seen from interest expressed by <<NAME WITHELD>> and other major wind energy players). Once Midwest Engineering has established a track record of designing and building wind projects with the same level of quality and total management as we do for fossil generation and other projects, the market response is likely to be very positive. The limiting factor at that point would be our resource base.

2.8 Regulatory Issues

Just as new regulations are a major driver for Midwest Engineering's services in safety and environmental permitting, new renewable energy requirements and emission reduction mandates will require the utilities to explore adding renewable energy systems.

While most of these regulations are not yet in place, they continue to appear imminent in local, federal, and international levels. Descriptions of some of the most prevalent are provided in this section.

2.8.1 International Regulations

The global emission regulation that receives a great deal of press exposure is the Kyoto Protocol. This protocol calls for global reductions in greenhouse gases, and creates mechanisms for the trading of emissions credits. Most industrialized nations, including all members of the EU and Canada, are signatories to Kyoto. The United States government has not recognized Kyoto, and the current administration and congress will not likely change this stance in the near future. However, as Midwest Engineering and most of our larger clients are global companies, Kyoto is a reality that must be recognized.

2.8.2 Federal Regulations

Present renewable energy laws on a national level are in the form of incentives, not mandates. Programs such as the federal Production Tax Credit and Renewable Energy Production Incentive give owner's of renewable energy projects funds (about \$20 per MWh) to offset the higher costs of renewables and to encourage their use. While the specific future of these programs isn't yet known (and currently set to expire at the end of 2008), it is generally believed these incentives will continue for several years. Clear evidence of this is that most developers are committing to wind turbines and projects beyond the sunset of the current incentives.

Also looming is the potential for a federal renewable portfolio standard (RPS). Legislation requiring renewable energy across the country was passed by the House of Representatives in 2007, but was ultimately defeated in the Senate. This legislation has been offered for several years and continues to gain more support with each year. It is therefore a real possibility that this legislation will be passed in the coming years.

2.8.3 State Regulations

While RPS legislation has been slow in coming at a national level, it has been passed in more than 20 states (see Figure 2-1). While the levels of renewables requirements vary by state, most require a significant amount of new renewable energy development. For most of these states, the most economical renewable energy option remains wind energy. Midwest Engineering Marketing Analysis estimates about 35,000 MW of new wind will be built between 2007 and 2015 if the PTC is extended until 2012, or about 20,000 MW if not (if all RPS requirements were met by wind energy the

estimated total would be over 50,000 MW). With the PTC extension (which is expected), that would be a three-fold increase in the amount of wind energy installed in the U.S. presently, and represents a \$70 billion market overall and a \$10 billion market for engineering, construction, and consulting services.

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3.0 Product Information

Midwest Engineering has the ability and resources to provide complete technical solutions for clients working with wind energy. There are no other competitors to Midwest Engineering that can offer such a complete range of services with the depth of expertise and resources, if Midwest Engineering chooses to aggressively market and apply those resources to wind power projects. To date, Midwest Engineering has been limiting services to engineering and consulting. To seize the market opportunities and complete our range of services offered, Midwest Engineering should not only expand the number of people dedicated to wind energy services, but add EPC to the range of services provided and marketed.

3.1 Value Proposition and Differentiation

Midwest Engineering can bring several values to our clients that differentiate our services from those offered by the competition. The first is our ability to provide a full range of services, from very early conceptual consulting through project design and construction. While other firms can also offer this, most need to engage outside companies or consultants to achieve (and experience has shown that quality and schedule suffer in such arrangements). Midwest Engineering has all the resources internally to provide our services, and therefore has a much better control of quality, schedule, availability, and cost. While on a per hour basis Midwest Engineering tends to be more expensive than current wind energy engineering providers, our quality control system and integrated team mean we can deliver superior designs, will be less likely to need to perform rework, and can find solutions that will save the clients money in construction costs. We also have available an enormous range of experts in specialty areas (such as welding and corrosion) and a network of regional offices that can all be brought to a project as needed, neither of which are typically available internally to our competitors in wind energy. At present Midwest Engineering only offers wind energy construction services through an advisory role, but our value proposition will be significantly increased when we also offer complete wind EPC services. Again, by having <<NAME WITHELD>> and <<NAME WITHELD>> as integrated companies, Midwest Engineering has the ability to offer wind EPC internally without needing to rely upon a partner or subcontractor.

Another differentiator for Midwest Engineering is our ability to be flexible within the services we provide. Many companies offer a set series of products, and have difficulty adjusting those to fit a specific client's needs. This is a strength of Midwest Engineering for wind energy, as these services grow out from a consulting business line

where flexibility and responsiveness to a client are critical elements. By having such a wide range of services offered and an approach offering client to chose those services that fit their needs is a significant strength and value added.

Another differentiator for Midwest Engineering is our name recognition in the energy utility industry. No other consultant, engineer, or EPC contractor active in wind energy has near the reputation outside of wind energy that Midwest Engineering has. Building on this reputation with a solid plan and business unit in wind energy, and showing Midwest Engineering is serious about competing in the wind energy section, will give Midwest Engineering a competitive edge with the clients we should be targeting. Those clients will likely be receptive to having the same level of skill and experience working to design and build their wind projects, just as they are their fossil generation and other major projects.

3.2 Product in its Market and Against its Competition

Currently, developers of wind projects either need to invest in significant internal resources to handle technical issues, or more commonly hire experts and consultants separately. This requires developers to handle multiple contracts, and often lose time while they look for and engage specialists as needed. By providing a wide range of integrated solutions, Midwest Engineering offers clients the ability to handle their all of their technical issues without the need for multiple contracts or time lost.

The companies that are currently wind energy EPC providers tend to be construction companies that offer engineering services. To provide engineering, the EPC companies normally hire subcontractors, often small companies with limited scope and resources. The results are often disjointed designs, where discrete aspects of the overall design (civil, collection system, structural, substation) are not integrated well. This is because engineering is not a strength of the EPC providers (construction services are). Midwest Engineering is an engineering company that also owns industrial construction companies, and can perform engineering in an integrated approach that is a higher value than current methods.

Because Midwest Engineering offers higher quality engineering and construction services that much of our competition, it is also at a somewhat higher cost. As such, Midwest Engineering should market these services for larger, more complex projects and to clients that value quality and long-term project operations over lowest possible EPC cost. The Wind Energy Team has observed that current providers of wind energy engineering tend to have a difficult time finding solutions to complex problems involving such aspects as foundations, electrical collection design, and high-voltage interconnections because they are not typical to these company's past projects. Because

Midwest Engineering engineers routinely deal with these complex issues, we can offer solutions based on far more experience. These projects are the ones that Midwest Engineering can deliver the highest value per cost, both in construction and over the project's life.

3.3 Packaging

Midwest Engineering can offer a “one stop shop” for all technical services and construction needs. The wind energy team has currently packaged the services into three major topics, described in Section 3.4. It may also make sense to package wind energy services with other services for specific clients with unique needs.

3.4 Product and Component Definition

While Midwest Engineering has the ability to offer a very wide variety of technical and construction services, the Wind Energy Team had classified them into three major groupings.

3.4.1 Renewable Energy Evaluation Services

For consulting services to support a client prior to the definition of a specific project, Midwest Engineering offers services in the determination of a client's options for renewable energy. These often involve evaluating the needs of the clients, their resource base, and the state of each technology, and developing a recommendation for how the client can implement a solution. The deliverables from these services are most often stand-alone reports, or input into Integrated Resource Plans. These services are typically offered through <<NAME WITHELD>>, or in some cases <<NAME WITHELD>>. A typical project has a revenue value of \$<<AMOUNT WITHELD>>.

The Midwest Engineering Renewable Energy Group within <<NAME WITHELD>> has experts in most renewable technologies. A significant advantage Midwest Engineering has is our name recognition, and established relationships with the major utilities (who are most often the clients for these services). Midwest Engineering is also neutral regarding technology, giving us an advantage over other firms that concentrate on one or a small number of technologies. Also unlike those small “boutique” firms, Midwest Engineering has much greater resources and a perspective not only on the development and design, but construction and utility integration as well.

3.4.2 Wind Energy Owner's Engineering Services

For the developers and owner's of wind energy projects, the Midwest Engineering wind team has developed an integrated approach for support, divided generally into three

phases: initial development, development and design, and engineering and construction. The phases depend upon where in the development cycle the project is, and involve different resources and team structures. The services offered with each phase are described below. An example proposal for these services with detailed descriptions of the services is attached in Section 11. Depending upon when in a project Midwest Engineering becomes involved, the value of these contracts can be between \$<<AMOUNT WITHELD>> and \$<<AMOUNT WITHELD>>.

3.4.2.1 Wind Project Services Phase 1: Initial Development

These services are targeted toward helping clients define a project, or helping clients evaluate investment opportunities into projects under development. Specific services identified in this phase include:

- <<INFORMATION WITHELD>>

These services are sometimes executed through <<INFORMATION WITHELD>>, and often yield a stand-alone report with an investment recommendation. These services are performed in <<NAME WITHELD>>, utilizing a team of engineers from the Renewable Energy Group (Wind Energy Team), <<NAME WITHELD>>, and <<NAME WITHELD>>. If needed for a specific client or project, professionals from Construction, <<NAME WITHELD>>, and other divisions may also be engaged.

This is the activity Midwest Engineering has the most experience with. Since 2000, Midwest Engineering has performed about 20 such activities for a wide variety of clients. This experience base, and the depth of resources available within Midwest Engineering, are our largest differentiators for this work.

While Midwest Engineering does face competition for these services, most competitors offer only a subset of the services, requiring clients to integrate the advice of many experts. By offering a holistic set of services coordinated by a wind energy specialist, Midwest Engineering offers better value overall.

3.4.2.2 Wind Project Services Phase 2: Development and Design

These services are those required to take a project from initial definition (or investment) to the point of being ready for detailed engineering. Specific services for this phase include:

- <<INFORMATION WITHELD>>

Once a project proceeds to this phase, a <<NAME WITHELD>> Project Manager will take over the Midwest Engineering team. Professionals from Construction and

Procurement will added to the team, along with additional experts from <<NAME WITHELD>> to develop the overall team. This project team will help guide the project through the development process, and assist the client with getting the project to the engineering and construction phases.

3.4.2.3 Wind Project Services Phase 3: Construction

These services are provided during a wind project's design and construction. There are two general approaches, one where Midwest Engineering provides the engineering directly, and one where Midwest Engineering oversees the engineering performed by others. Currently the construction services offered in this phase are construction oversight for quality and schedule purposes, but those services could be expanded if Midwest Engineering were to choose to begin offering wind energy EPC.

The specific services offered in this phase are:

- <<INFORMATION WITHELD>>

The same project manager and team of engineering experts from Phase 2 would remain throughout Phase 3 as well. For the work in the field once construction begins, a field team would mobilize to provide those services. The field team would be led by an experienced project manager from Construction, and would include specialists in safety and quality assurance as needed by the project and client.

Midwest Engineering is finding that there is significant interest in performing these services, especially by developers experienced in other energy industries who know the value of having an owner's engineer. This approach parallels the owner's engineering services Midwest Engineering offers in fossil generation. On the <<NAME WITHELD>>project alone, to date the project has saved the client well over \$<<AMOUNT WITHELD>> in specific technical solutions offered, and many instances where rework has been avoided due to our quality control oversight.

3.4.3 Wind Energy Independent Engineering

Midwest Engineering also supports the evaluation of wind energy projects for banks, vendors, and investors through the <<NAME WITHELD>> Division. These services are outside the development services discussed above, although they rely upon many of the same professionals from <<NAME WITHELD>>. The most common service provided is a due diligence review of a project, often in the design or early construction phase. The deliverable from these evaluations are generally reports describing the technical aspects of a project, and providing recommendations regarding the value of a project.

Independent Engineering assignments are often very intense, fast-paced projects that require the complete attention of those participating. They are a core service for <<NAME WITHELD>>, but are one of many activities supported by the Wind Energy Team in <<NAME WITHELD>> on an as-available bases. They are an excellent opportunity to gain experience for newer team members, and for the company to gain valuable market intelligence. As such, Midwest Engineering should continue to support these activities. To do so effectively, additional engineers should be added to the Wind Energy Team, and possibly directly to <<NAME WITHELD>> if the amount of this work were increased. The value of a due diligence project is often \$<<AMOUNT WITHELD>> per project. Independent engineering services are often performed after a project has either begun construction or after it is completed, but in cases where it is done at the development stage there is potential for significant follow-on work as owner's engineer.

3.4.4 Wind Energy EPC

While the above services represent an opportunity for Midwest Engineering to obtain reasonable revenue and value contribution amounts, a much larger opportunity on both scales is with EPC services. Midwest Engineering has recognized that the market for energy projects has moved to a single contract, turn-key approach and has invested in adding construction services. This is true for wind energy as well.

Wind energy EPC would be executed in a manner closer to substation and transmission projects than to fossil generation projects. This is because building a wind project involves many similar activities, including building substations, placing underground distribution lines, building roads, and erecting tall structures. Many details of wind energy construction are unique to the technology, however, so efforts need to be taken to increase the company's experience to mitigate risks. Options include hiring experienced wind energy construction managers, acquiring a construction company experienced in wind projects, or utilizing experienced subcontractors in critical aspects of the project's construction. After Midwest Engineering has completed one or two projects and obtained this experience, the approach can be adjusted for a more internally-based execution.

Midwest Engineering has attempted to win EPC wind projects in the past without success. It is important to learn from this experience and to understand the wind market so that future efforts are more successful. Adding to the company's experience base (as discussed above) so that bids can be developed that are more competitive is important, as is selecting the clients to whom we bid (see Section 2.3). Midwest Engineering should also highly leverage our experience in wind energy services performed through

<<NAME WITHELD>>, especially the owner's engineering projects that have included construction management services. The lessons learned from project engineers and construction specialists should be compiled as a first step in determining what is different about wind energy that other projects Midwest Engineering is familiar with, so that bids can be developed accordingly.

Hiring experienced professionals, compiling lessons learned, and possibly acquiring companies all represent a significant effort on the company's part toward wind energy EPC. Also necessary will be an acknowledgement that the first few projects may not have as high an economic return as desired, and that this is necessary while Midwest Engineering learns how to build a new technology. If Midwest Engineering makes the commitment to these aspects it can build a very successful business in wind energy EPC that will add significant value over the long-term. If not, it is not recommended that Midwest Engineering attempt to win wind EPC projects, as it is not expected that the outcome of future bids will be more successful than previous attempts.

3.5 Pricing Strategy

The majority of the services discussed above are consulting or services offered through <<NAME WITHELD>>. These services have a higher market value than traditional engineering services. Experience has shown that, for many projects, rates with an employee salary multiplier (ESM) of <<AMOUNT WITHELD>> or slightly higher can be very successful. This rate level is in line with the other areas within <<NAME WITHELD>>, and higher than most business lines within Midwest Engineering Energy. These rates would be expected for services performed for the services described in Sections 3.4.1, 3.4.2.1, and 3.4.2.2 above. In almost all instances, these services are offered on a time and materials basis.

For detailed engineering and construction management services, the market levels for those rates tends to be lower than consulting. Given the strong demand for such services and the value added by Midwest Engineering, it is expected that in the long term Midwest Engineering will be able to achieve the same <<AMOUNT WITHELD>> ESM as with consulting services. For some clients, and while performing some tasks for the first few times, Midwest Engineering may need to use a lower ESM (such as <<AMOUNT WITHELD>>) that better matches traditional market levels. Charging these lower rates would need to be approved by management, and done for strategic purposes.

For direct construction and EPC, Midwest Engineering is known to be significantly more expensive than many of the contractors active in wind energy. Again, due to the market and the value Midwest Engineering brings over the competition, it is

not expected that Midwest Engineering will need to lower these pricing levels in the long-term. However, for Midwest Engineering to obtain the first few construction projects, it may be necessary to accept a lower profit level. This can be deemed as “buying” project experience and recognition within the wind energy EPC market. There has been an offer by <<NAME WITHELD>> to offer a project for Midwest Engineering to build for the amount <<NAME WITHELD>> would expect to pay for such services. Exploring this offer may lead to a better understanding of what the market expectations are for this service, and perhaps providing Midwest Engineering an option for our first wind EPC project. However, given the aggressive nature of <<NAME WITHELD>>, there may be other clients that are a better fit for our first EPC project.

Independent Engineering projects done through the <<NAME WITHELD>> Division most often command a higher rate, often <<AMOUNT WITHELD>> ESM or higher. For these projects, such rates should be used.

There is a general industry expectation that Midwest Engineering costs more than competitors in detailed engineering and construction, but our rates are about even with those for consulting services (and somewhat lower than those of <<NAME WITHELD>>). Midwest Engineering does not need to lower our rates in detailed engineering to be competitive. Rather, we need to highlight how much money clients will save both in the initial construction cost and in the long-term operational costs by having Midwest Engineering design and build their projects. This can be achieved by showing the increased efficiencies of having engineering and construction management team members active throughout the project, and the impacts of higher overall quality of design and construction. Those clients with experience in wind energy will likely understand this value, especially compared to the overall cost of the project (typically the cost of engineering and construction management is much less than 3 percent of a project’s cost)

4.0 Technical Feasibility

All of the services described in Section 3 are within the abilities of Midwest Engineering with the current resources available. There is no aspect of wind energy project consulting, engineering, or construction that Midwest Engineering has not developed skills in. Limitations into the amount of work Midwest Engineering is currently performing in wind energy are primarily due to the amount of internal resources, and self-imposed limitations regarding offering wind energy EPC services. These limitations come from the high demand for these services in other areas, as well as our inability to successfully win wind energy EPC bids in the past. The Wind Energy Team believes that our high cost in those earlier bids were due to a general lack of understanding of how much engineering and construction was truly required for a wind energy project, and that the experience gained in the past few years through our owner's engineering assignments will lead to more competitive bids in the future (especially to the higher priority clients described in Section 2.3).

Recognizing the limited resources of the Wind Energy Team and the preferred project structure within <<NAME WITHHELD>>, these services tend to be performed by teams consisting of a small number of wind energy specialists working with disciple engineers. For example, teams for Phase 2 wind energy owner's engineering services will have specialty engineers from the geotechnical, civil, structural, and electrical engineering teams, plus professionals from <<NAME WITHHELD>> and Construction, all coordinated by an Engineering Manager from the wind energy team. This approach allows the team to have access to the experts from each of the disciplines, and guidance from the wind expert as to what is unique about wind energy for their areas. This approach has been very successful for <<NAME WITHHELD>> projects to date, allowing for far more projects to be supported than if the Wind Energy Team were to attempt to be self-supporting. This is the model recommended for future wind energy activities.

To grow these services, Midwest Engineering needs to add staff with a background in wind energy or expose more engineers to wind energy projects. Also, more engineers may be needed within each specialty area to support these projects, along with more construction managers. What is not deemed necessary at this time is to add new capabilities to Midwest Engineering, or acquire other companies.

To offer wind energy construction services, the Wind Energy Team makes two recommendations. The first is take full advantage of those wind projects for which Midwest Engineering is currently acting as owner's engineer and providing in-field quality control support during construction (currently <<NAME WITHHELD>> and <<NAME WITHHELD>>). The experience gained by the field managers at those projects

can be applied to directly performing future projects, and estimators from Construction can visit project sites to see how other constructors are building projects. Secondly, an experienced construction manager from the industry should be hired to oversee the first wind energy projects built by Midwest Engineering. Having a known construction manager leading our efforts will assist both in the marketing and execution of the projects. Beyond this management experience, all the necessary skills to build a wind project reside within Midwest Engineering, our construction companies, and the contractors we commonly use to perform some specialized construction activities.

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5.0 Fulfillment

A plan has been developed showing the market potential for Midwest Engineering in wind energy services and construction. This plan, and the changes, support, and investment needed to achieve it, are described in this section.

5.1 Market Capture Plan and Milestones

The Wind Energy Team has developed a conceptual plan for the amount of business achievable by Midwest Engineering. This plan draws upon the current and expected market for wind energy, and market experience gained through recent projects.

5.1.1 2007 (Current State)

Presently, the Wind Energy Team is a subset of the Renewable Energy Group within <<NAME WITHELD>> (although not an officially recognized team within the division organizational chart), and consists of the following people:

- <<NAME WITHELD>>
- <<NAME WITHELD>>
- <<NAME WITHELD>>
- <<NAME WITHELD>>
- <<NAME WITHELD>>
- <<NAME WITHELD>>

As can be seen, Midwest Engineering is currently relying upon a team of mostly very young engineers to coordinate most of its wind energy work. This team recently relocated to the Midwest Engineering office in <<LOCATION WITHELD>>. The move was performed to support the geographical expansion of <<NAME WITHELD>>, and to put the team in a location where professionals working in renewable energy desire to live.

Midwest Engineering is providing owner's engineering services on nine wind energy projects. Details on these projects are provided below:

- <<PROJECT INFORMATION WITHELD>>

As can be seen from these projects, most are being managed outside the Wind Energy Team. In most cases, only one member of the Wind Energy Team has been assigned to each project, although for quality and training purposes it would be more beneficial to have additional team members supporting some projects.

In addition to the owner's engineering projects, Midwest Engineering will likely perform about \$<<AMOUNT WITHELD>> in wind energy services, mostly stand-alone feasibility studies and due diligence project support.

5.1.2 2008

During this year, three current owner's engineering assignments are set to be completed. Midwest Engineering could likely start at least five to ten additional similar projects from our existing clients and those included in the targeted marketing.

With some additional resources spent on recruiting, Midwest Engineering could add at least 3 new wind energy senior engineers/engineering managers, along with 4 to 6 new entry-level engineers to support these activities.

2008 should also be the year Midwest Engineering completes our first wind energy EPC project. Given the level of interest expressed by <<NAME WITHELD>> and other companies, there should be little problem obtaining a project if Midwest Engineering is ready to prioritize such a project and commit to signing a contract for one in 2007. From discussions between the Wind Energy Team, Construction, and <<NAME WITHELD>>, a project consisting of about 40 turbines and in a location not significantly complex would be an ideal project to begin with. During 2008, while performing the first project, Midwest Engineering should commit to three additional projects to be built in 2009.

With additional resources within the Wind Energy Team, consulting and independent engineering projects should be able to nearly double to about \$<<AMOUNT WITHELD>> in 2008. Owner's engineering revenue would be nearly \$<<AMOUNT WITHELD>>.

5.1.3 2009

After the completion of the OE and EPC projects in 2008, this year should begin by spending significant time performing lessons learned and aligning the business plan to incorporate those lessons.

In the area of wind energy owner's engineering work, at least eight projects should come to completion. If recruiting has kept up with demand, perhaps eight to ten additional owner's engineering projects could begin. Midwest Engineering should also strive to perform a few design projects outside of EPC contracts, perhaps performing two such projects in 2009.

Midwest Engineering should perform EPC on three wind projects in 2009. Due to the time cycle involved with committing to projects, it will not be possible to wait until the end of construction of the 2008 EPC project before committing to the 2009 projects.

Therefore, the number of projects should be limited to three and the size and complexities of those projects be similar to that of the 2008 project. After the “lessons learned” from the 2008 project is completed, Midwest Engineering will be better able to determine the optimum size, difficulty, and client for the projects committed to in 2009 for construction in 2010.

As the resources of the team continues to grow, an additional increase in wind energy consulting and due diligence projects of 50 percent should be achievable, with an estimated revenue near \$<<AMOUNT WITHELD>>. Also by 2009, some of the new Wind Energy Team members should be placed in <<LOCATION WITHELD>> to coordinate directly with staff there, and be readily available to support management in discussions with clients that occur there.

5.1.4 2010

By 2010 owner’s engineering projects should be sustaining at a level of ten to twelve projects completed per year, and perhaps as many as 25 ongoing at any time. A management staff of about 12 wind energy project/engineering managers should be achievable by 2010, with perhaps more if the demand of such services remains high. Midwest Engineering should also be performing three to four design engineering projects outside of EPC projects.

The amount of wind energy EPC projects performed in 2010 will depend upon the results of the lessons learned in 2009. Unless significant difficulties are found from those lessons, building six to eight large projects in challenging locations should be target for 2010 (the size and complexity should better fit Midwest Engineering’s strengths and allow the company to achieve profit margins in par with other EPC work).

If the consulting work were to continue to grow in a steady pace, an annual revenue of \$<<AMOUNT WITHELD>> in 2010 should be possible. By 2010 there should be dedicated wind energy specialists within <<NAME WITHELD>> to support due diligence work in wind.

By 2010 Midwest Engineering should also be considering wind energy projects outside North America. It is difficult to predict the international market for wind energy at this point, but it is expected that European dominance of wind energy will be less as they reach a point of saturation by that time. Midwest Engineering may find strong markets in Asia and Africa by 2010, and can work through the company’s offices in <<LOCATIONS WITHELD>> to tap those markets.

With so many wind energy projects being supported through consulting, engineering, and construction, Midwest Engineering should consider launching a new Wind Energy Business Line. This line would have the sales and management staff that

focus on Midwest Engineering's wind energy work, and would also have the wind energy technical specialists currently in the Wind Energy Team. Support for wind energy projects outside the wind specialists would still be sourced from <<NAME WITHELD>>, Construction, <<NAME WITHELD>>, and other divisions as they are now. The revenue amounts by 2010 should also justify a wind business line (by way of comparison, the average Energy business line had a revenue amount of about \$<<AMOUNT WITHELD>> million, ranging from <<NAME WITHELD>> at \$<<AMOUNT WITHELD>> to <<NAME WITHELD>> at \$<<AMOUNT WITHELD>>⁶.)

5.1.5 2011 and Beyond

It is difficult to predict beyond 2010 at this point, as the potential is truly driven by market acceptance of and competition to Midwest Engineering in the areas of detailed design and construction. There should be sufficient market for wind energy to remain a significant portion of Energy's overall work. Enough experience should have been obtained by that point to have many technical experts in the company with experience in both wind and fossil projects, making execution of wind no more (or less) difficult than the design and construction of coal and gas turbine plants.

5.2 Organizational Structure Changes

The organization of the Midwest Engineering Energy business is based on Business Lines based on technology or services provided, with the majority of Midwest Engineering engineers placed onto projects from a centralized Production labor pool. The Business Line departments contain the internal management, project managers, sales, and support staff specifically for that line, and tends to be a relatively limited number of people. The Production area is further organized into departments by discipline (electrical, mechanical, civil, etc), with quality control and training for the engineers in those disciplines done through their various departments. This allows Midwest Engineering to staff projects as needed without requiring Business Lines to commit to a set number of discipline engineers, and gives the company more flexibility in staffing while maintaining efficiency and quality in work product. The current organizational charts for Midwest Engineering are included in Section 11.

Recognizing the requirements and skillsets for consulting work is somewhat different, <<NAME WITHELD>> is organized a bit differently. Many of the full-time engineers supporting <<NAME WITHELD>> are specifically committed to <<NAME WITHELD>>, and not part of the overall larger Production pool. The professionals

⁶ From NAME WITHELD, accounting supervisor, October 30, 2007 e-mail

working directly in for <<NAME WITHELD>> are part of Department <<NAME WITHELD>>, the portion of Production dedicated to staffing <<NAME WITHELD>> projects. The professionals comprising the Wind Energy Team (except <<NAME WITHELD>>) are part of a subset of Department <<NAME WITHELD>> that is dedicated specifically to the Renewable Energy Team in the Technology and Renewables Section. Being a project manager, <<NAME WITHELD>> is in Department <<NAME WITHELD>>, but otherwise is dedicated to the same team and section as the rest of the Wind Energy Team.

Support for wind energy projects from outside the Wind Energy Team are mostly staffed from the discipline areas of Energy Production. The one exception is support for construction services, which is staffed from the Construction Department.

Moving forward, additional consulting and owner's engineering projects can be staffed in the same manner as they currently are. Wind EPC projects will probably be staffed in a manner similar to owner's engineering projects, with an overall project manager and engineering manager from <<NAME WITHELD>>, and a construction management team in Construction. Sales and management support will need to come from a combination of <<NAME WITHELD>> and Construction. Additional Business Lines such as <<NAME WITHELD>> will need to become involved as services that fall into those areas are needed.

As the amount of business grows, the staff of specialists increase, and the amount of consulting work is eclipsed with the design and construction work, it appears logical that Wind Energy should become the <<AMOUNT WITHELD>> Energy Business Line. The specialists and project managers for wind energy that are not part of disciplines within Energy Production would transfer into this new Business Line. An executive champion for Wind Energy would be appointed, and the line would have dedicated support for sales, business development, and quality management. A concept of this new Wind Energy Business Line structure is presented below, based on the organization of the <<NAME WITHELD>> and <<NAME WITHELD>> business lines.

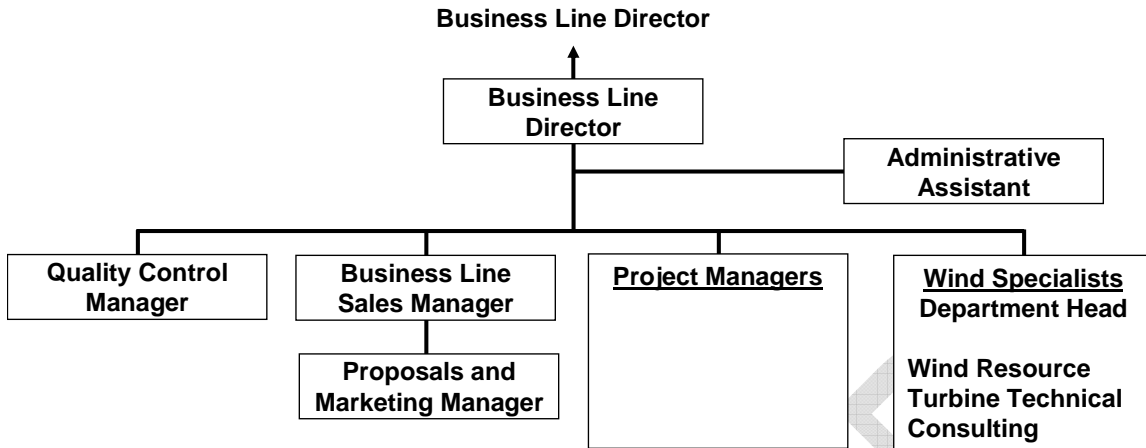


Figure 5-1 Wind Energy Business Line Organization Chart

5.3 Management Support

To achieve the fulfillment plan discussed above, specific support will be required from Midwest Engineering management. Because this plan crosses business lines and departments, support will be needed within each affected business line and Midwest Engineering Energy executive management.

5.3.1 Executive-Level Champion and Wind Business Line

In order to fulfill the growth potential for wind energy at Midwest Engineering, a “champion” for wind energy is needed at the executive level. While this person may eventually become the business line director, he or she is needed years before the business line is created to coordinate the efforts and set priorities across multiple existing business lines. This champion should be within Midwest Engineering Energy, and work closely with Construction to develop Wind EPC services and promote the entire range of services offered in wind energy.

Once the Wind Energy Business Line is created, there will need to be support personnel assigned to it. At a minimum, a sales manager, proposal manager, quality manager, department head, and administrative assistant will be needed. As needed during the early stages of this business line, some of these people could be shared with other business lines. However, like the executive champion, to be truly successful these people will need to be dedicated to the new business line long-term. The Wind Energy Team will work with the executive champion to identify people internally where possible to fill these positions, or recruit people as necessary. For the sales manager, this can either be filled through the new RGM training program or by hiring a known industry sales professional.

5.3.2 Wind Team Expansion

As shown in Section 5.1.1, the Wind Energy Team is currently staffed with relatively junior professionals. Because the market for experienced wind energy professionals is so large it is difficult to recruit them to Midwest Engineering (although the recent team relocation to <<LOCATION WITHELD>> is expected to aid recruitment). Renewable energy is also of significant interest to younger engineers but is relatively new on a large scale, meaning few experienced engineers have been exposed to these technologies.

Successful rapid growth of the wind energy services is dependent upon hiring additional experienced professionals and managers. To locate and attract those professionals, recruiters active in renewable energy should be retained to conduct the searches. Also, Midwest Engineering may need to offer salaries and benefits above those typically offered for these levels to compete with other companies also actively recruiting. This will be far more critical for very experienced staff, especially for construction field managers.

In addition to external recruitment, Midwest Engineering should check internally if some experienced engineers and project managers have an interest in working more extensively in wind energy. Currently there are significant barriers established (both formally and informally) to discourage such transferring, since such transfers happen at the detriment to the department being left. Midwest Engineering Energy management may need to establish priorities with regards to staffing these projects versus other areas, and mandate that such barriers be removed for the good of the company.

As with any area, long-term growth will also depend upon a steady number of new hires coming just out of college, or with relatively little experience. This should be balanced with the numbers of experienced professionals hired; however, the Wind Energy Team has been very successful to date relying upon high quality young engineers. To improve this process, a formal training process could be established so that such young engineers do not need to rely completely upon on project experience to improve their skillsets.

5.3.3 Coordinate with Sales Staff

The Wind Energy Team has had inconsistent success in obtaining new business through the Midwest Engineering sales staff. There has been success with clients Midwest Engineering calls upon regularly, in which those clients indicated to the Midwest Engineering sales person that they have needs for wind energy support. The major projects with <<NAME WITHELD>>, <<NAME WITHELD>>, <<NAME WITHELD>>, and to some extent <<NAME WITHELD>> have been obtained in this

manner. For direct marketing of wind energy services to companies that may not already be Midwest Engineering clients, the Wind Energy Team has received very little sales support. In the past two years, due to high workloads and the projects being obtained from traditional Midwest Engineering clients, the Wind Energy Team has performed little marketing and requested little support from the Midwest Engineering sales professionals.

To grow the Midwest Engineering wind business and achieve the fulfillment milestones, more direct support will be needed from the Midwest Engineering sales force. Eventually, once the Wind Energy Business Line has been established, a dedicated sales professional will be assigned. Until then (and even after that happens), Midwest Engineering sales professionals should actively market wind energy services along with other services to those clients active in wind energy. The sales kits and marketing materials developed for the 2002 Renewable Energy Business Plan should be updated, and the sales force kept informed on a quarterly basis regarding the status of wind services at Midwest Engineering. As the resource base for wind energy services grow and new work beyond established clients is needed, the Wind Energy Team can work with the sales force to established targeted clients and strategies to approach these companies. In short, the success of the wind energy business will partially depend upon marketing these services moving from just the “seller-doers” to being coordinated by the Midwest Engineering sales experts.

5.3.4 Support Interdivision Cooperation

As mentioned earlier, another key success factor is good cooperation between divisions at Midwest Engineering. Currently the Wind Energy Team enjoys good cooperation and great support from the other groups within <<NAME WITHELD>>, the discipline areas of <<NAME WITHELD>>, <<NAME WITHELD>>, and Construction (for services only). Although limited in the amount of need, the wind team has gotten great support from regional <<NAME WITHELD>> offices as well. However, support from <<NAME WITHELD>> has been limited at times, an issue common to other areas of <<NAME WITHELD>>.

When the amount of work increases and the demand placed upon other divisions grows, conflicts regarding other projects and the prioritization of support are expected increase. Previously supportive divisions may have trouble maintaining support levels. To avoid this, and improve cooperation with other divisions, two general approaches are envisioned. First, Midwest Engineering Energy management will set priorities for support of wind energy projects among other projects. Second, the management of the wind energy business will work proactively with the management of discipline areas and with other divisions to keep them informed of the status of new business and growth

targets, so those areas can plan their staffing effectively. This coordination would likely entail a quarterly meeting, with additional updates as needed when larger projects are won.

5.3.5 Support Initial EPC Projects

When entering an established market like wind energy construction, even when demand is very high, Midwest Engineering needs to expect that there will be inefficiencies and market pressures that may lower the overall profitability of the first few projects. As such, Midwest Engineering Energy management needs to be prepared to accept possibly lower profit levels on the first projects while the company learns what is unique about wind energy construction compared to the types of projects typically built. It will be vital that lessons learned from the first few projects be applied quickly, to improve efficiencies quickly. It will be just as vital that Midwest Engineering be prepared to bring all the needed resources to the first few wind projects for them to be a success, otherwise our reputation within the wind energy market will suffer making it difficult to achieve the required profit margins in future wind EPC projects.

5.4 Investment Plan

Given the existing skill base and resources within Midwest Engineering, there aren't significant investments required to grow the wind energy business. Unlike getting into a completely new business area, Midwest Engineering can grow upon the experiences and contacts made through <<NAME WITHELD>>. Most of the needs are in management and divisional support, as described in Section 5.3. However, some amount of investments will be required.

5.4.1 Aggressive Recruiting of Key Personnel

As discussed with the wind team expansion (Section 5.3.2), a critical success factor is the ability to recruit and retain experienced wind energy professionals. The first step to achieve this was to move the Wind Energy Team to a city deemed a desirable place to live by these professionals (<<LOCATION WITHELD>>). The next step is to pay for aggressive recruiting of project and construction managers, and to offer those recruits higher wages and better benefits than they are currently receiving. This may require Midwest Engineering to pay these professionals higher wages than is typically done for the job levels they are hired into. The Wind Energy Team can identify professionals known to be good potential hires, and the recruiters can target these individuals along with using their database of industry contacts.

5.4.2 Targeted Marketing

When the resource base for wind energy has been increased to the point where additional marketing is desired, funds should be available for sales staff and “seller-doers” to go to the offices of targeted clients and meet directly with them. These trips will show Midwest Engineering’s interest in those clients and dedication to providing wind energy services, and will be much more effective than mass marketing or mailings. The target list of potential clients can be prioritized to limit the amount of time and travel required, but companies that show an interest may require multiple trips to maintain that interest and obtain the first project. Assuming about <<AMOUNT WITHELD>> trips per year are required, each trip having two professionals taking two days and about \$<<AMOUNT WITHELD>> in travel costs each, the total targeted marketing budget could be \$<<AMOUNT WITHELD>> per year.

Depending upon the effectiveness of the direct marketing, a mass mailing could be performed to reach clients who are ready to engage a company like Midwest Engineering, but are not currently known by Midwest Engineering.

5.4.3 Consulting/Engineering Resources

Midwest Engineering already has most of the tools needed to provide consulting and engineering services for wind energy projects. There are needs to update specialized software, add work stations to operate them, and add a few specialized field tools to support these services. The overall cost for these additional and updated resource is not expected to exceed \$<<AMOUNT WITHELD>>. To maintain licenses for some software packages, and annual budget of about \$<<AMOUNT WITHELD>> is expected.

5.4.4 Construction Resources

It is expected that Construction will utilize existing equipment, or engage subcontractors, to build wind energy projects. Upon the completion of the first few projects, Midwest Engineering may determine improved efficiencies will depend upon purchasing new equipment, such as cranes and cable trenchers. As it is not known what these items may be, it isn’t possible to estimate a budget for them at this time.

5.4.5 Acquire Other Businesses

In looking at options for growing the wind energy business at Midwest Engineering, the acquisition of existing companies has been considered. While Midwest Engineering has made a few acquisitions in recent months (mostly for the <<NAME WITHELD>> and <<NAME WITHELD>> divisions), growth through acquisition has not been a common approach for the company. As such, this plan is based upon the

utilization of existing resources, and “organic” growth through hiring and development by project experience.

However, in order not to overlook the opportunities that exist in company acquisitions, some ideas have been presented below. At this time the Wind Energy Team is not advocating the acquisition of these companies.

5.4.5.1 Services

Most wind energy services companies are smaller, privately-held firms. The value of these companies is in the skillset of their staff, therefore the acquisition would need to be done carefully so that these valuable professionals didn't leave the company upon the acquisition. Two valuable wind energy service providers are discussed below.

- **<<NAME WITHELD>>**: <<NAME WITHELD>> provides wind consulting services very similar to Midwest Engineering, and some additional services in wind turbine testing. Their web site lists <<AMOUNT WITHELD>> key personnel. It is the Wind Energy Team's expectation that at least an additional <<AMOUNT WITHELD>> support <<NAME WITHELD>> on a contract basis. To compete in the independent engineering market, <<NAME WITHELD>> has partnered with <<NAME WITHELD>>. Acquiring <<NAME WITHELD>> would add significant experience to Midwest Engineering (if those professionals stayed), and would remove a significant competitor from the market.
- **<<NAME WITHELD>>**: <<NAME WITHELD>> provides services and software to the wind energy industry. <<NAME WITHELD>> has over <<AMOUNT WITHELD>> employees in <<AMOUNT WITHELD>> offices across <<LOCATION WITHELD>>. <<NAME WITHELD>> is the premiere provider of independent engineering services for banks and lenders to wind energy projects, having an involvement with almost every project built worldwide. They also provide several software packages that are commonly used for energy prediction, wind farm SCADA systems, and wind turbine design. Acquisition of <<NAME WITHELD>> would be expensive, but would drastically increase Midwest Engineering's international presence in wind energy and allow us to compete in Europe. However, acquisition of <<NAME WITHELD>> is incompatible with performing EPC services for wind, since the value of <<NAME WITHELD>> is in its independent engineering practice.

5.4.5.2 Construction

The companies involved in wind energy construction are varied, and range from small service providers to large international contractors. As with the services companies, the true value in these companies is in their people rather than equipment, so an acquisition plan would need to address how these professionals would be retained. Targeted recruiting within these companies would likely be more effective.

Rather than listing a long list of companies, three grouping of companies have been listed for review:

- **Full EPC Providers** (<<NAMES WITHELD>>): These are large companies that provide the full range of construction services, and direct perform at least a portion of this work. Acquisition of one of these companies would be very expensive, as some may be larger than Midwest Engineering. Also, the culture at those companies may not be compatible with Midwest Engineering, so conversion of staff may be difficult.
- **Partial Construction Providers** (<<NAMES WITHELD>>): Companies that are active in a portion of the overall wind energy construction team, and are commonly not the general contractor. The examples listed are crane companies, perhaps the most specialized of any wind energy construction services. Midwest Engineering Construction has indicated a preference to subcontract these specialty services, especially on the first few projects, and observe their performance to see if there is any value in acquiring such a company.
- **Construction Services/Coordinators** (<<NAMES WITHELD>>): These companies would act as a general contractor, but do not have any direct construction assets. They would coordinate subcontractors to perform all the services needed at a project, and would just staff the management of that project. While acquisition of one of these companies would be beneficial, it may be more cost effective to recruit an experienced manager from one of these companies, and to have that manager involved with the first few wind projects.

6.0 Communications Plan

Midwest Engineering has a hard-earned reputation in the energy business as a world-class engineering and construction firm for fossil power projects, substations, and transmission lines. Most of our clients, however, do not equate Midwest Engineering with renewable energy. Those that may know we maintain a presence in renewables are not certain what services we provide. The goal of this communications plan is to significantly increase client awareness of our services in renewables, especially wind energy, and to reach out to potential clients in the wind energy industry who are not familiar with Midwest Engineering. Just as important is communications within Midwest Engineering, to inform our professionals what we do in renewables, and our plans to increase our market share in wind.

While this plan is targeted just toward wind energy, it makes sense to coordinate these communications with the other services performed in renewable energy. Many clients, especially utilities, are looking at doing projects with more than just wind, and it is important to use these investments to cover all areas of renewables as appropriate.

6.1 Marketing Tools

This section describes the kinds of tools that should be developed to support marketing efforts for wind energy. While these tools can be helpful in providing detail as to Midwest Engineering's services offered, they are only effective when used in conjunction with face-to-face discussions with clients.

6.1.1 Brochures

Midwest Engineering Energy established a series of brochures for our services based on technology, and a brochure was generated for wind (included in Section 11). This brochure will need to be adjusted to align with the focus of those services as they change to include EPC. As the approach for those brochures is updated, the wind brochure should be updated as well.

6.1.2 White Papers

White papers, and associated presentations at industry conferences, are an excellent opportunity to gain credibility in the industry. As Midwest Engineering completes owner's engineering assignments, it would be good to present papers on the benefit of having an owner's engineer support a client through design and construction (OE's are still not common in wind energy). Discussions on specific issues resolved and money saved would be good lessons to share, so long as confidentiality restrictions are

maintained. As Midwest Engineering begins performing EPC services, similar papers on important lessons learned and the benefits of using a company with our depth of resources could be presented. Virtually all potential clients will attend the AWEA WindPower conference, so presentation at that conference should be considered key for presentation of these papers.

6.1.3 Articles

Along with the presentations at conferences, our differentiators and value added can be displayed in articles in industry journals. Midwest Engineering has already been approached by *North American Windpower* magazine, and based on our strong relationship with PennWell should be able to get articles published in their magazines (such as *Power Engineering* and *Renewable Energy World*). The most credible wind power industry magazine is probably *Windpower Monthly*, but given its European focus it may be difficult for an American firm to get published.

6.1.4 Press Releases

As Midwest Engineering is awarded and completes major owner's engineering and construction projects, press releases should be issued. The pace of these releases should be set by those activities, but a goal of about one per quarter should be set.

Should Midwest Engineering choose to purchase a company within the wind energy industry, that should also be captured in a press release. Also, if we hire an individual of particular note, that may also warrant a press release.

6.1.5 Ads

Ads in industry journals can have an impact, and should be considered once Midwest Engineering completes our first wind EPC project. Advertising earlier may have less value, especially if we have not increased our resource base and cannot take additional work. For this communications plan, placement of ads is not included.

6.1.6 Web Page

Wind energy services are already listed on the Midwest Engineering web page under Renewables. This hierarchy makes wind energy services hard to find, and leaves an impression that these services are of lower priority to Midwest Engineering. When the Wind Energy Business Line is created, it makes sense to place wind even with other business lines. The most important aspect may be to update the highlight project with our first completed owner's engineering project, and then our first EPC project. After that,

the project should be updated annually to be the best example project from the previous 12 months.

6.1.7 Newsletters

Renewables are often included in Midwest Engineering newsletters like <<NAME WITHELD>> and <<NAME WITHELD>>. Notable new projects or team members in wind should continue to be included in those newsletters.

The Renewable Energy Group has periodically issued a newsletter to all Midwest Engineering renewables clients, and found it an excellent means of maintaining communications. However, that newsletter has been done by the professionals in the team, not Corporate Sales and Marketing, and it has not been possible to continue developing the newsletter with the group's very high workload. If that newsletter is re-established, it would be important for the Wind Energy Team to submit regular articles.

As the Wind Energy Business Line get established, it may be worthwhile to create a newsletter specifically for wind.

6.1.8 Sales Kit

When the 2002 Renewable Energy Business Plan was issued, a sales kit was developed and distributed to every Energy sales professional. An updated sales kit for wind energy should be developed that would augment that original kit, and provide information critical to sell wind energy services. The material in that kit would include:

- Current wind energy brochure
- Wind energy qualifications and experience project list
- Project sheets on major Midwest Engineering projects
- Talking points on wind energy, and services at Midwest Engineering
- Presentation slides on wind energy of various lengths (1, 3, 10, and 30 slides) to be included in sales presentations
- Stand-alone "Wind Energy 101" presentation

6.1.9 Interactive CD-ROM

To support the reputation of Midwest Engineering as a high quality provider of wind energy services, we could develop an interactive CD-ROM. This CD would have a "Wind Energy 101" explanation, and integrated into that would be the services Midwest Engineering provides. This CD could be given to Midwest Engineering clients interested in getting into wind energy, and wanting to know both the basics of the technology and what Midwest Engineering does in wind. While this CD-ROM is deemed beneficial, it

may be premature to develop one and is not considered in the budget for implementing the communications plan.

6.2 Marketing Trips (Non-Conference)

Experience in the Wind Energy Team has shown that direct marketing to targeted companies is far more effective than mass marketing and conference booths. As such, a significant portion of this communications plan involves marketing trips to meet with key targeted clients or major Midwest Engineering clients who express an interest in wind energy.

6.2.1 *Strategic and Targeted Clients*

The Wind Energy Team has developed a preliminary prioritized list of clients to market directly to, based on their importance to Midwest Engineering and their presence in the wind energy industry. This list will be continually adjusted based on feedback from the clients and market intelligence. Some of these companies are already clients of the Wind Energy Team, and the focus on the marketing trips will be to gauge client satisfaction and market additional services (such as Wind EPC). The approach may be to first send each company updated literature describing Midwest Engineering's full range of services. Depending upon timing and resource, the next step could be a meeting at an industry conference, or a visit to the client's offices.

The current prioritized list of companies to market to are:

1. <<NAMES WITHELD>>

To perform these trips, a member of the Wind Energy Team would likely travel with the sales person assigned to this client to present our capabilities in wind energy. For clients targeted for wind EPC services, the Wind Energy Team member could be replaced or augmented with a construction manager or executive familiar with wind. The presentations given would likely be a personalized version of one of the presentations in the sales kit.

6.2.2 *Banks for Due Diligence*

The Midwest Engineering <<NAME WITHELD>> Division has made good progress toward obtaining independent engineering work for wind energy lenders and investors. To support this continued success, at least one trip is needed where Midwest Engineering wind energy specialists can meet with these potential clients (most of whom are in New York City) and present Midwest Engineering's capabilities in wind. This trip

would include someone from the Wind Energy Team and manager from <<NAME WITHELD>>.

6.3 Conferences, Presentations, and Booths

Although much of the communications plan involves very targeted marketing, Midwest Engineering will benefit from having a presence at important industry conferences. This will be even more important as we begin to market EPC services for the first time in combination with wind energy.

6.3.1 AWEA Wind Power

This annual conference is the focal point for the wind energy industry in North America (a Canadian conference does exist but is significantly smaller). From 2003 through 2006 Midwest Engineering had a booth at this conference, but in 2007 did not since active marketing was not deemed necessary to maintain a strong workload (and maintaining one was keeping professionals from attending sessions and gaining valuable training). When Midwest Engineering is ready to market wind EPC services to the industry, a booth should be again taken to this conference. It is also important that as many members of the Wind Energy Team attend this conference to meet clients and vendors, and attend sessions to keep their skills sharp.

6.3.2 PowerGen International

The PowerGen International conference is an annual show that Midwest Engineering typically attends in force. Members of the Wind Energy Team have attended this conference at times when requested by management to present papers, but are not part of the core presence at the conference. As very little of the conference focus is on renewable energy, the most cost effective approach is probably to make certain the sales professionals at the conference are aware of Midwest Engineering's wind energy services, and to pass along wind energy contacts to the Wind Energy Team.

6.3.3 PowerGen Renewables

This smaller PowerGen conference is just on renewable energy technologies. While there is great industry presence for other technologies, wind energy is not as well represented. This is actually an opportunity for Midwest Engineering to meet with many valuable clients in a less competitive atmosphere. We typically have a booth at this conference, and at least one member of the Wind Energy Team should be in attendance. Midwest Engineering also normally gets an opportunity to present on several topics at this conference.

6.4 Intra-Company Marketing

One of the greatest challenges to the Renewable Energy Group is that many professionals within the company are not aware that Midwest Engineering is active in this market. Significant effort has been undertaken since the 2003 Business Plan to educate sales staff, provide sales tools and information, and to get information on renewable energy projects into <<NAME WITHELD>> and <<NAME WITHELD>>. While this has helped, there still remains a general lack of understanding of what exactly Midwest Engineering does in renewable energy (especially wind energy) by many professionals. A plan to continue to address this need is presented below.

6.4.1 *Brownbags*

These informal training sessions are an excellent forum for interested professionals to learn more about what Midwest Engineering does in wind energy. There are two basic brownbag sessions given that affect knowledge on wind energy services: a Renewable Energy 101 session, and a more specific Wind Energy 101. Both talks describe not only the state of the market and technologies, but what Midwest Engineering is actively doing with these technologies as well. They should continue to be given on a periodic basis (such as quarterly), and advertised in the company intranet and training web page. When possible, they should be offered on Raindance to allow for regional participation.

6.4.2 *Presentations to Regional Offices*

As members of the Wind Energy Team travel to cities with regional offices in support of projects or directed marketing, effort should be taken to offer a brownbag at that regional office during that trip. This would be most effective at Energy or Construction regional offices, although other larger offices with an interest in the topic should also be considered. As this is an opportunistic approach, the cost for performing these presentations is relatively low.

6.4.3 *Chief Engineers Conference*

At the annual Midwest Engineering Chief Engineers Conference, the Wind Energy Team typically tries to make a presentation on the state of the wind energy market. Starting in 2007, the focus of these presentations has been more technical, and the first given was on the design of a portion of the overall project (electrical collection system). Future presentations will go over other design aspects and construction techniques. This is another potential forum to discuss lessons learned, although care needs to be taken as Midwest Engineering clients often attend these sessions.

As the Wind Energy Team is based in <<LOCATION WITHELD>> and the Chief Engineers Conference is in <<LOCATION WITHELD>>, a member of the team will need to travel to give the presentation, and the cost of that travel will need to be budgeted.

6.4.4 Articles in Foundations and Solutions

As mentioned earlier, the Midwest Engineering internal newsletter (<<NAME WITHELD>>) and external newsletter (<<NAME WITHELD>>) can be a great venue to inform both company professionals and clients of the status of wind energy services. Status updates can be given on major projects, and important information shared on the state of the market and company lessons learned. This is also a good opportunity to tie the wind energy services back to the company’s <<NAME WITHELD>> effort.

6.5 Marketing Communications Budget

A tabulation of the communications plan cost is presented in Table 6-1 below. This budget highlights the higher priority aspects of the communications plan, and shows the opportunities to utilize the existing marketing tools already paid for through other Midwest Engineering budgets.

<p align="center">Table 6-1 Marketing Communications Budget <<AMOUNTS WITHELD>></p>		
Media	Initial Cost	Annual Cost
<i>Marketing Tools</i>		
Brochures		
White Papers		
Articles		
Press Releases		
Ads		
Web Page		
Newsletters		
Sales Kit		
Interactive CD-ROM		
<i>Marketing Trips (Non-Conference)</i>		
Strategic and Targeted Clients		
Banks		
<i>Conferences</i>		

AWEA WindPower		
PowerGen		
PowerGen RE		
<i>Intra-Company Marketing</i>		
Brownbags		
Regional Office Presentations		
Chief Engineers Conference		
Articles for Newsletters		
TOTAL		
Notes: ¹ Covered by existing marketing budgets ² Company policy requires this be prepared on personal time		

7.0 Distribution Strategy

The product being discussed in this business plan are services. Distribution of those services will be through means already established by Midwest Engineering, and include project reports, correspondence, and presentations. For consulting, these services will be distributed through the appropriate Midwest Engineering company (normally <<NAME WITHELD>>, but may be a regional company like <<NAME WITHELD>> if needed). For offering construction services related to wind energy, those services will be distributed through Midwest Engineering's two construction companies: <<NAME WITHELD>>, and <<NAME WITHELD>>. No new distribution resources or companies are required for these services.

Distribution of marketing will be through marketing trips, sales staff activities, and conferences. Again no new resources are needed initially in this plan, although when the Wind Energy Business Line is created a new sales manager and marketing manager for wind will be needed.

8.0 Financials

In Table 8-1, the Wind Energy Team has estimated the financial impacts of the amount of work and staffing discussed in Section 5. The values for 2007 represent currently booked work, and assumes no additional work generated. The economic parameters of the estimated work levels are summarized below. For simplicity and to concentrate just on the impact of business growth, all rates and revenue amounts are kept at 2007 levels.

Table 8-1				
Financial Summary <<AMOUNTS WITHELD>>				
Item	2007	2008	2009	2010
<i>Renewables Consulting</i>				
Number of Projects				
Number of FTE's				
Revenue				
Direct Salaries				
Direct Expenses				
Total Direct Costs				
PGM				
Adjusted PGM				
Estimated Overhead				
EBT				
Value Contribution				
<i>Owner's Engineering</i>				
Number of Projects				
Number of FTE's				
Revenue				
Direct Salaries				
Direct Expenses				
Total Direct Costs				
PGM				
Adjusted PGM				
Estimated Overhead				

Table 8-1
Financial Summary <<AMOUNTS WITHELD>>

Item	2007	2008	2009	2010
EBT				
Value Contribution				
<i>Wind EPC</i>				
Number of Projects				
Revenue				
Direct Salaries and Expenses				
Subcontract Cost				
PGM				
Adjusted PGM				
EBT				
Value Contribution				
<i>Independent Engineering</i>				
Number of Projects				
Number of FTE's				
Revenue				
Direct Salaries				
Direct Expenses				
Total Direct Costs				
PGM				
Adjusted PGM				
Estimated Overhead				
EBT				
Value Contribution				
<i>TOTALS</i>				
Services Only				
Revenue				
PGM				
Adjusted PGM				
EBT				
Value Contribution				

Table 8-1				
Financial Summary <<AMOUNTS WITHELD>>				
Item	2007	2008	2009	2010
Wind EPC Only				
Revenue				
PGM				
Adjusted PGM				
EBT				
Value Contribution				
Combined Services and EPC				
Revenue				
PGM				
Adjusted PGM				
EBT				
Value Contribution				
Notes:				

8.1 Estimated Revenues

The estimated revenues from the services (Renewables Consulting, Owner's Engineering, and Independent Engineering) are based on revenues from currently booked work and recent projects. For Renewables Consulting and Owner's Engineering, the work is assumed to be booked at a <<AMOUNT WITHELD>> ESM, with the average rate for Renewables Consulting somewhat lower than for Owner's Engineering. Wind Energy Team support for independent engineering is assumed to have an average rate of <<AMOUNT WITHELD>> at a <<AMOUNT WITHELD>> ESM. Each Renewables Consulting and Independent Engineering assignment is assumed to require about <<AMOUNT WITHELD>> FTE's on an annual basis to complete; for Owner's Engineering, about <<AMOUNT WITHELD>> FTE's are assumed.

For EPC of wind energy services, a typical value of about \$<<AMOUNT WITHELD>> is assumed for a balance of plant contract.

8.2 Direct Salaries and Expenses

The direct salary information listed is estimated from the rate and ESM assumptions listed above. For example, in Renewables Consulting the average rate is assumed to be \$<<AMOUNT WITHELD>> for the labor only, at an ESM of

<<AMOUNT WITHELD>>. Therefore, the average direct salary cost is \$<<AMOUNT WITHELD>>.

The direct expenses reflect the expected costs for travel, relocation, and HoBaCa. For Renewables Consulting and Independent Engineering projects, an average amount of travel costs of \$<<AMOUNT WITHELD>> per project was assumed. For Owner's Engineering projects, an average travel and relocation costs were assumed to be \$<<AMOUNT WITHELD>> per project per year.

8.3 PGM/EBT/Value Contribution

To calculate the typical financial parameters used by Midwest Engineering to track a project's financial performance, the following approaches were used:

- $PGM = \text{Revenue} - \text{Total Direct Costs}$
- $\text{Adjusted PGM} = \text{Revenue} - \text{Total Direct Costs} + \text{Contras}$
- $\text{Estimated Overhead} = \text{Break Even ESM} - \text{Salary} - \text{Burden}$
- $EBT = \text{Adjusted PGM} - \text{Estimated Overhead}$
- $\text{Value Contribution} = EBT - \text{Income Tax} - \text{Working Capital}$

For these calculations, Contras were assumed to be HoBaCa (computer and office expenses). For analysis purposes, income tax costs were assumed to be <<AMOUNT WITHELD>> percent of EBT, and working capital was assumed to also be <<AMOUNT WITHELD>> percent of EBT.

As expected, the revenue levels depend highly upon the number of wind EPC projects performed. However, until 2010, the consulting services make up a significant amount of Value Contribution per year. This is reflective of the higher profitability (and lower risk) of services work over construction. Still, long-term financial growth will depend greatly upon successful and efficient construction projects.

8.4 Up-Front Investment Needs

The investment needs for wind energy services are expected to be relatively minor compared to the financial potential. In summary, these need are expected to be:

- Recruiting Support and Hiring Bonuses: perhaps \$<<AMOUNT WITHELD>> per year
- Consulting and Engineering Resources: \$<<AMOUNT WITHELD>> in 2008, and \$<<AMOUNT WITHELD>> annually thereafter.
- Communications and Marketing: \$<<AMOUNT WITHELD>> in 2008, and \$<<AMOUNT WITHELD>> annually thereafter

These investments assume that no extraordinary investments, such as in acquiring businesses or new construction equipment, are made.

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9.0 Schedule

Figure 9-1 shows the projects that would comprise the fulfillment milestones were presented through 2010 described in Sections 5 and 8. To staff these projects and achieve these milestones, the Wind Energy Team would need to comprise of the amount of professionals described in Table 9-1.

Table 9-1 Staffing Schedule				
Professional Category	2007	2008	2009	2010
Consultants	5	10	14	18
Engineering Managers	5	8	12	17
Construction Managers	2	5	8	15
TOTAL	12	23	34	50

This staffing schedule assumes that an Engineering Manager can support 2 projects (either owner's engineering or EPC). Also, Construction Managers are assumed to only be assigned to a single project per year.

It should be noted that, in 2007, the staffing schedule shows a need for 12 people. Currently the Wind Energy Team only has 6 professionals. Some professionals (specifically Construction Managers and some Engineering Managers) are being staffed through other groups and divisions. This approach is expected to continue until the Wind Energy Business Line is created.



Figure 9-1 Schedule of Major Projects

10.0 Corporate-Wide Renewable Energy Plan

At present, no company-wide plan exists for all renewable energy services. If such a plan is generated, that plan should be developed in concert with the fulfillment and communications strategies of this plan.

Also, in 2007 Midwest Engineering added the Environment as a <<NAME WITHELD>> initiative. While this initiative is currently focused on improving the environmental impacts of the company in its current business activities, it could also include adding or expanding services aimed specifically at addressing environmental issues. Developing and executing this wind energy plan could be used as part of that initiative.

Finally, the Wind Energy Team would like to present an idea for consideration that, while unusual, could significantly aid this plan and demonstrate the company's commitment to the <<NAME WITHELD>> initiative. There are numerous examples of large companies who have made commitments to purchase renewable energy credits (basically pollution offsets) for at least a portion of their overall energy consumption. Rather than simply make such a purchase for Midwest Engineering's offices, the company could go a step further and design and build a wind farm to generate those offsets. By working with the local utility, Midwest Engineering could explore committing to enough wind energy to allow the utility to move forward with adding another wind project to their system. The deal could be dependent upon Midwest Engineering being the engineer and constructor of the project. Further benefit may come from the project being one currently being supported by Midwest Engineering in the development stage. This approach would allow for Midwest Engineering to gain important project experience, get a project close to the company's headquarters that can be used as a showpiece, and demonstrate a clear commitment to the environment without alienating our base fossil energy clients. While this business plan does not assume this project would be performed, it would allow far better control of the demands placed upon the company for its first wind energy EPC project.

11.0 Back-Up Materials

Attached to this business plan are the following reference documents (note that these documents have not been included in the redacted version for confidentiality concerns):

- Example Owner's Engineering Proposal
- Organizational Charts
- Midwest Engineering Wind Energy Brochure

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